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NARCISSUS.

DOUBLE ROMAN, PAPER WHITE AND POETICUS.



SEPTEMBER, 1884.

A WAR OF WORDS has broken out afresh in the English horticultural journals in regard to the bedding system. This controversy is one that has been waging for several years, with slight intermissions, and is mostly promoted by exaggerated expressions on both sides, if we may be allowed an opinion at such distance and judging only from the published statements. Few people in this country know to what an extent the bedding out of plants has been practiced at grand private establishments in Great Britain. We have nothing like it in this country, and only at a few of the largest public grounds are there exhibitions of this practice that bear even a remote likeness to it. The number of plants necessary to do effective work on a large scale in this manner requires a broad area of glass, and a large force of gardeners, undergardeners and workmen to propagate, care for and transplant them. The imperative demands of these plants at certain seasons for the time of all the available working force, has caused a corresponding neglect of other plants. It is easy to perceive that the question would most naturally be asked if the pleasure afforded by these plants for the few weeks in summer that they are in perfection is worth the attendant sacrifice of other parts of the garden. And, so, the "reformers," like most reformers, are ultra

in their demands, and ask that the whole system shall be abolished. From this conflict a peace will eventually ensue, based on a compromise of the bedding and what is styled the natural system. In fact, there is now a good understanding on this subject throughout the kingdom, except with a few irreconcilables.

The gardens of Great Britain now display a far greater variety of ornamental plants than ten, or even five, years ago, and the amount of bedding is much diminished. The fact is, the bedding of plants of various colors in distinct patterns is an art that produces pleasant effects, and as such should be cherished, but it should never lead us to neglect all the great variety of other beautiful plants that are unsuited to this style of gardening, and it probably never will in this country. The art of bedding, as practiced in this country, has been an unalloyed blessing to us. It has stimulated the great mass of our people to make their grounds attractive for the few months that we can most enjoy them. The few millionaires, here and there, who might have copied the English practice of elaborate bedding, have mostly been too much engrossed with their stocks and dividends, fashion and furniture to cultivate gardening tastes.

The-lawn mower and the massing of showy plants in beds gave an remark-

able impetus to gardening in this country, and they have transformed the village and suburban grounds from plots of high-grown, tangled grass and weeds to carpets of emerald, studded with bright jewels.

There is not too much bedding out in this country, we can even well afford to have a little more of it; but more or less may be compatible with good taste, depending upon circumstances in each case. We have, however, something in common with our English friends, who ask for a greater variety of flowering plants. Gardening, with us, is too exclusively confined to a smooth lawn and a few beds of flowers. By gardening, we mean the care bestowed on the grounds of the mass of people in good circumstances in our cities and villages, and who are able and do spend considerable amounts for recreation and travel, and in response to the changing demands of society. The gardening represented by this portion of our communities, and which is equal, at least, to the average employment of the art in this country, is as one-sided as that complained of on the other side of the Atlantic; but this one-sidedness is the result of underdoing, not of overdoing. With a lawn and a flower-bed or two, and sometimes a vase of flowering plants, with or without a few trees and shrubs, we seem quite content to rest. Our idea of neatness is gratified, and perhaps a little vanity in the floral display. Year after year there is little if any change. What we do in the gardening way is done for the appearance, the respectability of the thing, done for the same reason that we have a coat of paint put on the house, or renew the wall-hangings. It is not gardening for the love of it. And it is the spirit with which we enter into the cultivation of plants that measures our love for this beautiful pursuit. The poor woman who sows a few seeds in a piece of broken china, and raises some plants in her window, watching and caring for them day by day and week by week, until she sees them develop their full glory and strength in flowers and seeds, has more of the spirit and the enjoyment of gardening than the possessor of the clean mown suburban lawn, who is satisfied with the sameness of its monotonous features, and that alone, year after year.

One with a real horticultural or gar-

dening taste, and having the opportunity would employ every available spot for raising choice fruits and vegetables; borders of herbaceous plants would continually reveal new specimens of nature's most beautiful productions; the almost endless variety of annual flowering plants would, year after year, spread new objects before his admiring gaze; his interest would extend to nature in all her manifestations; insects and all animated organizations would share his attention. If this is a correct representation of the possessor of true gardening taste, then we are justified in saying that our people are greatly lacking in it. Here and there, in almost every community, we find a few who have the zeal and the taste of the horticulturist, and these exert a most benign influence, leading, teaching and inspiring others. The little leaven is leavening the whole lump.

The present appearance of city and village lots and of the streets, compared with the same fifty, a hundred, and two hundred years ago, as we know them by pictures and descriptions, and in comparison with many other countries, is an improvement almost immeasurable. We cannot go much further in the direction of neatness, but there is a wealth of beauty undreamed of that awaits us, if, as a people, we can be animated with a sincere love of horticulture. An almost endless variety of beautiful trees, flowering shrubs and plants that are practically unknown to us are ready for our employment, if we will make the effort to become acquainted with them. Many of the most beautiful plants of all countries await our use, and can be purchased at reasonable rates; and we know far too little of the numerous wild plants of this country that would yield themselves gracefully to the skilful attentions of the true plant-lover who should study their peculiarities, and afford them the proper conditions of life in a cultivated state. It is a reproach to us that they are so neglected and practically unknown.

There is, too, so much of pleasure in this art, and that of the purest kind, that we can press it upon the attention of our readers with the consciousness of offering them a real good. The love and practice of gardening are conducive to the noblest thoughts and the purest and healthiest lives.



A HANDSOME SPIRÆA.

One of the most pleasing varieties of the shrubby Spiræas is found cultivated in the nurseries under the name of *S. Van Houttei*. It grows from three to four feet in height, with rather slender stems and branches, which, under their weight of bloom, assume a position somewhat drooping. The leaves are smooth on each side, lighter colored underneath, broadly ovate, and wedge-shaped at the base;

those on the main shoots are distinctly three-lobed and coarsely toothed, from an inch to an inch and a half in breadth, and from an inch and a quarter to nearly two inches in length. The leaves on the side shoots are smaller, ovate, wedge-shaped, the upper portion dentate, but not lobed; petioles short, from an eighth to three-eighths of an inch in length. The small, pure white, single flowers, from fifteen to twenty-five together, are borne in terminal corymbs, or clusters, on the side shoots all along the stems and main branches, in wreath form. The setting of the green leaves, in which the white clusters nestle, makes a plant in full bloom an object of remarkable beauty. A great consideration in regard to this plant is its extreme hardiness; it has borne, unharmed, some of the severest tests to which plants in this country can be exposed. Its time of blooming is late, and after most of the white-flowered Spiræas have past their season; this year it bloomed the latter part of June and continued into July. The earliest of the Spiræas is *S. Thunbergii*, and it is a handsome plant, but unfortunately it is somewhat tender, killing back some in this climate. Notwithstanding, its earliness makes it quite desirable. Between these two varieties in time of blooming come many other beautiful kinds, and a few, such as *S. callosa* and *S. callosa alba*, *S. Billardi*, and *S. salicifolia*, extend the season still later.

THE NARCISSUS.

The Narcissus has been a favorite plant from remote times. Roman mythology superstitiously traces its origin. According to OVID, Narcissus was the son of Cephisus and the nymph Liriope. He was unusually beautiful, and when once he happened to see his image in a fountain his admiration of it was so great that he became enamored of himself, and his passion was so strong that he pined and wasted away. At his death the flower that bears his name sprang up beside the fountain, and it was believed that he was changed into it, for when his funeral pile had been prepared and waited the reception of his body it could no more be found.

"Then on th' unwholesome earth he gasping lies,
Till death shuts up those self-admiring eyes.
To the cold shades his flitting ghost retires,
And in the Stygian waves itself admires.
For him the Nais and the Dryads mourn,
Whom the sad Echo answers in her turn;
And now the sister nymphs prepare his urn,
When, looking for his corpse, they only found
A rising stalk, with yellow blossoms crowned."

The sad fate of Narcissus, it is said, was visited on him by Nemesis, because he preferred his own shadow to the nymph Echo, who desired his attentions.

The frequent mention of the Narcissus by the poets, has been commemorated by LINNÆUS, by designating one species as the Poet's Narcissus, *N. poeticus*. This is the larger white-flowered kind, shown in the colored plate. As will be noticed, this flower is borne singly on its stem, and at its center there is a small, yellow crown edged with pink or light red. This peculiarity of its center, or eye, has acquired it the name of Pheasant's Eye Narcissus. That this species is the flower of the old Greek and Roman poets is doubtful. There are numerous hybrid varieties of it with both single and double flowers of much beauty. The Poet's Narcissus is one of the most desirable, and by many thought to be the most beautiful of all this beautiful genus, and appears to best advantage when planted in large clumps, in parts of the garden where it can be left undisturbed and be allowed to become permanent. It will yield a great quantity of its pure white, sweet-scented flowers, which are valuable for cutting for vases and bouquets.

The Paper White Narcissus is smaller in flower than the preceding. It is a na-

tive of Italy, and more especially of Mount Vesuvius. It is deliciously sweet-scented, and the flowers are a pure white with a pale lemon center. It is specially adapted to early forcing, and is much employed by florists in this manner. In fact, as they are tender, this is the only use at the north made of this kind and the Double Roman, which is a double variety of the Paper White, and is equally fragrant.

Both of these kinds, as well as the Poet's Narcissus, are fine subjects for window pot culture. The Paper White and the Double Roman come into bloom very early, and if potted early and properly cared for will be in fine condition by Christmas; by potting at an early and a late season a succession may be had. About three bulbs can be placed in a five-inch pot of good, rich, sandy soil, well drained, setting them so as to have the necks of the bulbs at the surface of the soil. After watering, set the pots away in a cool, dark place for a few weeks, until the soil is well filled with roots, when they should be brought out to the light. A temperature of sixty degrees, or as near that as possible, is best for the growth and blooming of the plants. Water should be supplied according to the demands.

Quite a number of double varieties are highly esteemed as hardy garden plants, among which that known as Van Sion, the Yellow Daffodil, is most widely distributed, but there are others, such as Incomparable, Albo pleno odorato, Orange Phenix, Sulphur Crown, and others that should be freely employed. Several single varieties are well adapted to the same style of culture, among which the Gold Trumpet and the Silver Trumpet are prominent; these are very beautiful forms and worthy of a place in every garden. A remarkably beautiful sort is the Hoop Petticoat Narcissus one of the richest and most glowing yellow-colored flowers known. The Great Jonquil, or Campenel, is another beautiful golden, sweet-scented variety that we cannot be too familiar with. A border for the Narcissus should be well drained, rich, and deeply dug. The bulbs can be set any time in the fall, the earlier the better. A covering of leaves or litter should be given before winter sets in. At the time of blooming a mulch of old manure proves of great benefit.



CONSERVATORIES—PRIZE ESSAY.

The construction, heating and management of a small conservatory.

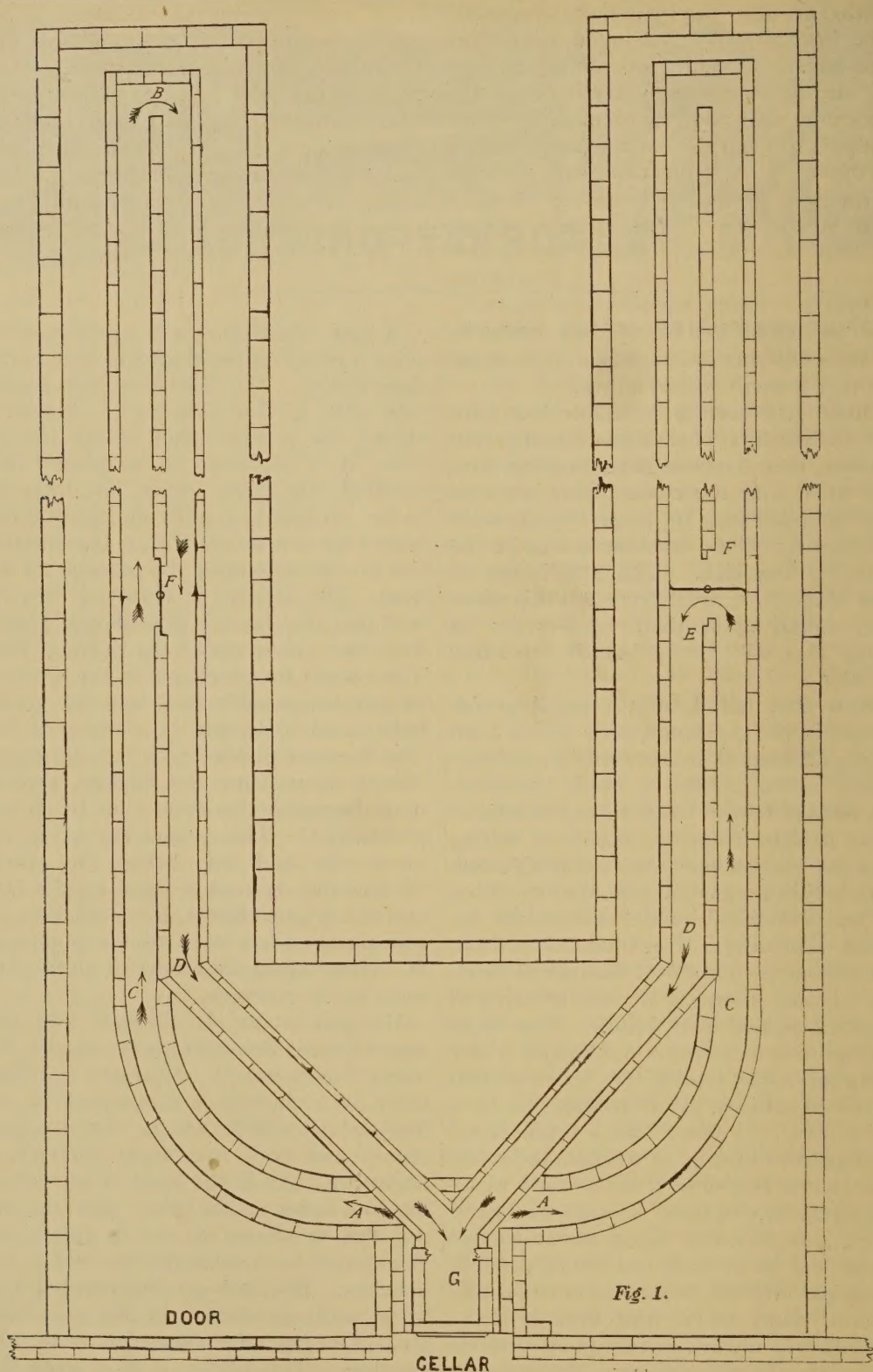
Much has been written, lately, in various horticultural periodicals, about green-houses, their construction, heating, etc., but most that has come before my eyes was intended only for larger floral establishments, and the amateur seemed to be entirely forgotten. The publishers of this *MAGAZINE* must have felt this when they called upon their readers for an essay that will solely benefit the small grower.

Now, last fall, I built a small greenhouse, in the construction of which I introduced several improvements not heretofore made public. I hope, therefore, the patient reader will forgive me when I stray a little from my subject by telling how my plant-house is heated and glazed.

In building a greenhouse, the first thing to be considered should always be the mode of heating. If anybody should ask my advice as to the best manner of heating a house intended for the growing of plants, I should first inquire how large the building is to be, and if its size is any thing less than twenty-five by sixty feet, advice would be, by all means, put in a brick flue. "I don't like a brick flue," my friend will reply. I ask him to let me know his objections. "It's an ugly looking thing, an eye sore," he says, and he is right. But the flue I am about to describe will be entirely out of sight. "It emits gas into the house," is the next objection. Only when your draft is poor, but you will always have a good draft if you place the chimney over the furnace. "It is old-fashioned." Certainly, but some old-fashioned things are extremely good things. Yet it would not do to be old-fashioned, and I will build something entirely new.

A poor illustration will sometimes explain a thing better than the best verbal description. I, therefore, accompany this with a few drawings. Figure 1 shows the ground plan of my heating flue. It is supposed to be placed in a channel dug where the wall is intended to be. It will be readily understood that where the arrows start, A, is the furnace; the arrows indicating the passage of the heat. The furnace is recessed into the wall that divides the greenhouse proper from the cellar under the potting shed. The reason for placing it in the recess is to get all possible heat into the greenhouse and to lessen the danger of fire. The flues are divided into two branches. Where they leave the furnace, they at once begin to rise until they reach the points, C, C. The deeper the cellar the more rise and the better the draft. Thence they run on a dead level to the end of the greenhouse, B, where they return on the same level to the points, D, D. Here again they ascend until they unite at the chimney, G.

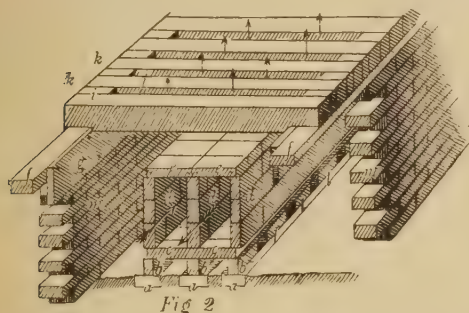
My greenhouse is divided into two apartments; the part next to the fire being the warmest. Near the partition there is a damper arrangement in the flues, which enables me to shut the heat out of the cool apartment entirely, if necessary. At E the heat is turned off the cool room, at the other side the entire flue is shown to be in operation. The dotted lines show the outlines of the benches. The flues are surrounded by a brick wall, as shown in Fig. 2, which gives a perspective view of a section of the flues. The bricks, *a, a, a*, form the foundation of the latter, and are imbedded in the ground. On them are placed, edge-ways, three rows of bricks, *b, b, b*, to raise the flue above the ground. The bricks in these three rows are not



put close together, but a space left between each to let the air circulate through and get the heat from all four sides of the flues. Then follows the bottom, *c, c*, laid flat. On these rest the sides, *d, d, d*, laid edge-ways, and carried

up three bricks, where the whole is covered with the two rows, *e, e*. The whole flue is built of common brick, except the curved part from *A* to *C*, Fig. 1. This part is made of fire brick, as in the furnace. All the bricks are laid flat here,

neither are there any openings underneath. The heat is very intense here, and the flue must be built accordingly strong. As the flues are below the level of the greenhouse bottom, there must be some support to keep the earth from caving on to them. This is furnished them by the brick walls, *m, m*. Put on top of these a frame of two by four scantling, *f, f*; nail to the inside of this frame boards about eight inches wide, *g*, and finish the whole by cutting some crown pieces of two by four, *i, i*, to reach from outside to outside of the brick walls, laid edge-ways. Notch them so as to fit to the inside of the boards, *g*. Nail on each end a little block, *k, k*, about one inch thick, to keep them about that distance apart to let the heat through. Put them in



place side by side, but do not nail them, they lie solid enough without nailing, and besides you want to take them up sometimes for cleaning or repairing the flues. There, you have my model flue that has kept my greenhouse with the greatest ease at 65° , when the thermometer stood 12° below zero outside, and with a moderate amount of fuel.

Fig. 3 shows a sectional view of the greenhouse. It will be perceived that the cross pieces over the walls form the floor of the walk. I should like to go on now and tell the readers all the advantages of the arrangement, but I am afraid I have dwelt on this subject too long already, for the object was to write about conservatories. But I have one more point to bespeak, which is my method of glazing. I have tried to make this plain in Fig. 3. It will be noticed that I do not lap the glass, for the simple reason that I do not consider it necessary. It is perfectly air and water tight if the glass joins close together, which it always will if cut straight. I use neither putty nor glazier's points. The sash bars are made without rabbets next the rafters, which are rab-

beted out to about the thickness of the glass. Before putting on the glass, I give the rafters and sash-bars a coat of thick paint on the sides that are to receive the glass. On this the glass is laid. Between each column of glass there must be a space left about one-quarter of an inch wide. After the glass is laid in place I go over this space with the paint brush to fill up all cracks that may have been left between wood and glass, thus making it perfectly tight. Previously I have wooden strips prepared to correspond with the width and length of the sash bars and rafters. These are screwed down on the glass, each strip holding down the sides of two columns of glass. To make this plain, I have shown in Fig. 3, on one side of the roof, the strip with the screws put in place, a little raised on the other side it is screwed down. If the reader of this owns a greenhouse, or is employed in one, he will know that by the common method of glazing, whenever there is a heavy gale blowing some glass is blown away, sometimes causing considerable damage to plants, as it is hardly ever discovered till some hours afterwards if it should happen at night-time. By my method this is made an impossibility. And did you ever notice the slow process of drawing out the sash with paint to make them tight for winter? By the new method an annual painting is not necessary, as the sun has no chance to eat the paint away that fills the cracks between the glass and wood, and when painting is necessary, all that is to be done is to unscrew the strips, paint them, put a good coat of paint on the space between the glass rows, and replace the strips. Some of my friends were so pleased with it that they advised me to have the process patented, as they were sure it would come into general use. Now, if this method of glazing is worthy of coming into general use, I shall certainly be the last man to put a hindrance in its way by having it patented, and here it is, public property. If any body does not mind the expense, it might still be improved by putting strips of rubber on each side of the glass where it comes in contact with the wood, and then screw it down, which would make even paint unnecessary, but the only advantage I see would be more convenience in repairing.

Any rule concerning the construction

and general management of greenhouses is more or less applicable to the conservatory. As with the greenhouse the heating point is of first importance. I have now and then heard a lady say, "I would like to have a little place built for my plants, if I only knew how to keep it warm in winter." Now, this is not so very difficult as is often supposed. The simplest thing in the world, that I know of, to warm a small conservatory,

time; but if you have not such a room with a southern exposure, then, of course, you must look for a place somewhere else. Let the exterior, as much as possible, correspond with the style of construction of the house to which it is attached. Avoid all unnecessary wood work, for it bars out the sunlight, and without sun no flowers. Neither go to the extreme and select large plate glass, for the heat through such glass when the

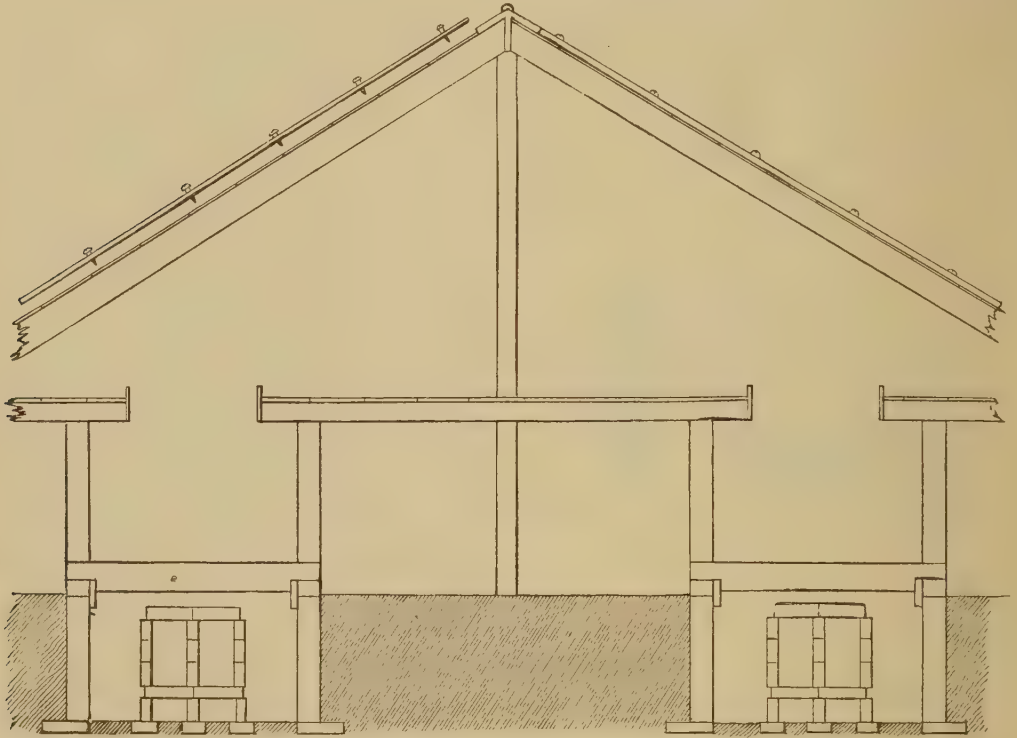


FIG. 3.

say ten by twelve feet, is a kerosene stove. It is an implement to be found in almost any household where the housewife does her own cooking; it is inexpensive and easily managed. It is not used for any thing in winter, so to what better use could you put it than to keep your plants from freezing? I know a lady who keeps her plants in a bay window. At night-time she curtains them with newspapers, and puts a common lamp between them, and in this manner she manages to get even *Coleus* through the winter. Of course, the room is heated by a stove in the day time, but the fire is always allowed to go out at night.

If you have made up your mind to build a conservatory, and have decided the heating question, select a good place for it. If possible, have it connected with a room in which you spend most of your

sun beams against it is too intense for any plant. The most suitable glass would be about twelve by fifteen inches. Have it put in in the same manner as described for greenhouses. Have a glass roof, it will make your plants grow more compact. If there is any danger of the glass getting broken by falling icicles, protect it with a strong wire screen. Arrange the ventilators so that when open no cold drafts will strike directly on the plants. Have some put under the lower plant-shelf in front, and another near or in the roof. Build it wide and low, rather than narrow and high. Avoid too many narrow shelves near the front, as I see sometimes done, for they bar out the sunlight, and cause the plants on them to grow one-sided, and you cannot have a good view of them unless you go outside. If you must have shelves have

a good wide one, about a foot and a half from the floor, and one in the rear of that, and leave a space to walk between. If you wish to grow anything overhead, train up some good running Roses or flowering vines, but these should always be well trimmed and tied back so as not to encroach upon your other plants. Make it a point never to crowd your plants. Whatever you raise, raise it to perfection. Never put any rugs or oil-cloths on the floor of the conservatory. I admit they are handsome, but they interfere with the free use of the watering pot. I would rather advise you to have the floor bored full of holes. You can have this done in the most artistic manner, if your taste runs that way. You could have it sawed out with the fret-saw and imitate all the patterns in your oil cloths, and your floor will look well, if not better than ever before. There is another advantage in this perforated floor. If your conservatory is larger than can be heated with an oil stove, and you have a furnace in your cellar, have it moved near the conservatory, if it is not already near. Then have a flue built similar to the one I have given a description of, under your perforated floor. Into this enter the smoke pipe of the furnace, and you will have a heater capable of heating a conservatory of any size. But have it so arranged that you can turn off the heat at pleasure, for sometimes the sun will make your greenhouse warm enough to cause you to open all the ventilators, and at the same time it may be cold enough at the north side of the dwelling to run the furnace at full force.

To raise plants a thing indispensable is a good soil. They may be grown sometimes without a house, but never without soil. I have heard something about fertilizing moss, but have had no experience with it. To obtain a good soil is, perhaps, easy enough in the country, but often very difficult in cities. Yet where there is a will there is a way, and if you are supplied with a sufficient quantity of will, it is all there is required. There are many things in the house that are generally thrown away, that nevertheless are good fertilizers. The floor sweepings, for instance, are good, and the coffee grounds and the tea leaves. Collect all in a barrel, and after some months you will have quite a treasure.

Mix these materials with some good garden loam; some farmer you trade with will get it for you, perhaps. After mixing it run it through a coarse sieve and put it away for winter use.

The best way for amateurs to propagate is in saucers filled with sand. Put your cuttings around the edges and keep them quite wet. Give them all the light you can, but do not expose them to the direct rays of the sun until they are rooted. As in every thing, experience must be your teacher. Not all cuttings can be successfully rooted in that way; if you would treat *Geranium* cuttings in the way described, nine out of every ten would rot. I generally treat my *Geranium* cuttings like grown-up plants from the beginning. It does not hurt them any if they wilt a little, while wilting is death to any other kind. Pot your cuttings as soon as they are rooted. See that the soil has the right degree of moisture when you use it. Test it by taking up a handful and close your fingers over it lightly. When by opening your hand it bakes into a whole lump, it is too wet; if it all crumbles apart it is too dry, but if it breaks into several small lumps, it is in the right condition. This is of great importance, and should not be overlooked.

Do not keep your plants continually wet, it will soon check their growth if you do. See to it that they get dry, at least once a week, but the pots should always look moist. If the outsides of your pots do not feel moist to the touch, then the plants in them are too dry. When dry, give them a thorough showering. My rule always is, not to water too often, but to do it thoroughly. Do not mind how much water is thrown beside the plants, nor how much soaks through the benches. It is for this reason that I advise the floors to be perforated. The water will all go through, and if you have a warm flue underneath it will at once come back again in the shape of a beautiful fog, and moisten the leaves of your plants on the lower side, and play havoc with the red spider.

Speaking of the latter, reminds me of insects that are certain to infest the conservatory unless one is on a constant warfare with them. Red spiders cannot exist in a moist atmosphere; mealy bug will yield to the syringe, provided you never let them get the best of

you; scales only grow on sickly and neglected plants. The most common enemy is the aphid or green fly, and the remedy usually recommended, fumigating with tobacco stems. This may do well enough in large greenhouses, but for small ones and conservatories, where too many kinds of plants are kept in one room, I never recommend it. This is what I use, with always good results: I take a large watering pot and fill it full of tobacco stems, cramming them in. Then I fill it with hot water and wait till it is cool enough, when it is ready for use; but it is far too strong to be used. I take another watering pot, fill it two-thirds with clean water, then fill up with the tobacco water. With this I give the infested plants a good sprinkling. If one sprinkling is not sufficient, I repeat it the next day, the second application generally clears them. I find this better than smoke, and at the same time it acts as a fertilizer. The plants to be treated should be in a dry, not too dry, condition; if they are wet it will injure them, although the injury will not always show immediately. Not only does this tobacco water destroy green fly, but I find that mildew on Roses always disappears after an application of it. I had a lot of Verbenas attacked by black rust; since I used the above named liquid this has entirely disappeared, and my Verbenas are growing as vigorously as ever, and some of them are in flower.

I hope these lines will give satisfaction to the reader. I have endeavored to say everything in as few words as possible, yet it seems to me I am crowding on the space of this valuable MAGAZINE, to which I have only recently subscribed. If any who reads this should not be satisfactorily enlightened, I hope he will not be backward in asking questions, or, if I am wrong, to correct me.—CHAS. EVERDING, *Branford, Conn.*

ROCKERIES.

I am frequently amused to see the specimens of rock-work some grounds display. They are like nothing else under the sun but themselves, and they are as little like the rockery of nature's making, which they are supposed to be patterned after, as it is possible for them to be. They are so prim, so angular, mathematically, so much like a burlesque

that I always have to smile over them, and, at the same time, I do not feel like ridiculing them, for I recognize the fact that they are there because the owner of the ground has a desire for something that shall be an ornament to the place, and I always encourage a desire for beauty, and would be glad to help it to satisfactory results. The truth is, nature is the hardest thing in the world for man to imitate successfully. She works from instinct, she never has to plan. Most of us lack her instinct of beauty and her ability to create it without rules or patterns, and what we do in imitation of her is quite likely to bear as little resemblance to her work as the first drawings of a child resemble the work of a practiced hand. If it is necessary for a picture on a slate to be labelled, "This is a cow," or "a horse," as the fancy of the amateur artist prompts, it would be necessary to label most rockeries, for one is about as true to nature as the other.

In attempting to imitate nature in any thing, it is necessary, first of all, if you would do good work, to take lessons of her. Do you want a rockery that shall remind you of some wild nook in the woods? Then search out such a nook, and study it well. Observe how the rocks are piled together. There is no suggestion of the stone-mason; there is no hint of any rule to follow; all is disorder, in one sense of the word, and yet everything is in that perfect order which grows out of the eternal fitness of things, as the rocks put together by the unerring taste of the builder, nature. Here a vine has taken root, and its beauty softens the rugged outline of the rocks, across and over which it clammers, and half conceals them. A Fern has made itself a home in the crevices, and flourishes as you can never expect it to in your rockery. All kinds of wild things creep and clamber over the gray stones, grass, weeds, moss, all in perfect harmony with the place, and you must admit that the impression this wild nook leaves upon your mind is far more delightful than that left there by any garden, man-built rockery. Rocks and wild plants go together, not rocks and garden flowers.

I would never advise any one to attempt a rockery unless he has quite extensive grounds about the house, and can build it in a secluded corner where

it is possible to have something of the wild freedom of the woodland or the pasture. There should be some old trees, and such shrubs as grow there naturally. If you have these accessories, it will be possible for you to make something that shall not be a constant eyesore. In a little yard, where the only location you can have for a rockery is between the house and street, do not attempt one. A clump of shrubbery, a flower bed, almost anything will be more satisfactory.

In constructing a rockery, do not go to work with the intention of "laying one up" as a mason would a wall. There should be no precise or systematic arrangement, but heap the stones together as carelessly as possible. Fill between them with earth from the woods or the pasture, and you will find many kinds of wild plants springing up and taking root there soon, and these plants will be the ones you need to give the place a natural look. I have never been pleased with a rockery filled with anything but wild plants, because there is an inconsistency in the idea of one in which garden and greenhouse plants are used. The rockery suggests wildness, freedom from culture, and a natural growth of such plants as are natives of the locality. Anything not in accordance with this idea will interfere with a successful carrying out of the plan.

The most pleasing rockery I have ever seen was not "built" at all. A man was hired to draw the stones of which it was to be made. He drew them and unloaded them in a heap at the place selected. When the owner came to begin work he was impressed with the idea that the careless, hap-hazard way in which the stones were piled up was vastly more like nature's way of doing such business than anything likely to result from a more formal effort, and he had the good sense to leave the heap precisely as it was. He had earth drawn from a pasture and filled in between the stones, and the roots of various plants which had grown in it were brought with it, and took kindly to their new quarters. This rockery is a pleasing one, because there is an entire absence of design or plan about it. If he had re-arranged the stones it would have been spoiled, doubtless.

I can show you a yard, not far from this place, in which there are no less than four rockeries, two on each side of a straight path leading from the house to the street, a path not fifteen feet long. They are laid up in circular fashion, with earth filled in in the center, miniature coal-kilns with the top sliced off. To add to the pleasing effect, they are white-washed annually. I feel like turning my eyes away when I pass them, but somehow I have to look at them.—EBEN E. REXFORD.

THE BOSTON ROSE SHOW.

The yearly Rose and Azalea exhibition by the Massachusetts Horticultural Society was too late in June for report in July number. It was a famous show of Roses, for which the season has been kind, and Boston, you know, prides herself on her rose-growers. Up the oft-trodden steps to the large hall in the Society's building, which never fails to draw one with its monthly or weekly sights of fruit and flowers, there was a floating scent of attar, and

It was Roses, Roses everywhere,
And Roses mixed in the Moss like mad.

ROBERT BROWNING, forgive me; but there is excuse for the play on verse in the sight of banks of cut Roses in wet moss, four or five feet deep, running round two-thirds the long hall and down the center on two tables again, besides ranges of plants in bloom, and side-tables set for the feast of Roses. Literally, thousands of the choicest Roses had been sacrificed for this glowing display.

The challenge silver vase, valued at \$200, to be held by the exhibitor taking the first prize three years in succession for the best twenty-four varieties, three blossoms of each, was won by JOHN B. MOORE and SON, of Concord, prize winners of 1882 and 1883. Of all pleasant success in life, such as writing the novel of the season, gaining the canvass for President, making a million in stocks, or winning an ocean yacht race, for deep and lasting satisfaction, one might prefer that of raising challenge Roses. It must be enough to raise such Roses as surrounded them from half a dozen well known exhibitors, with or without prizes.

The best instruction rose-growers can have is found in these exhibitions which show what fine Roses really are, in con-

trast to hundreds of showy but less perfect ones. The symmetry, the firm flesh which lasts days after cutting, in unmarred freshness, the fidelity to type in the close cupping or face curling petal, the color distinct and delicate, and perfect foliage of these high-bred Roses furnish a model less than which can never satisfy the true amateur grower again. There is the same difference between a prize Rose and common ones that there is between flawed yellow quartz and pure crystal, or between a sickly woman and a young beauty in her teens, and there is a disgust in thinking how many more people are judges of a diamond than of a fine Rose, most of people having no business whatever with diamonds, when all might and should have to do with Roses. Rose shows and horticultural societies will change all this in a score of years, and it is something that on exhibition days the reports take the leading column in the Boston *Transcript*, while politics and finance take a secondary place, as they should.

The finest six varieties, two blooms of each, were Baroness Rothschild, the Rose of Roses in its fresh pale perfection, Mabel Morrison, its usual purity by triumph of the florist's skill suffused with what can only be called a tinted white, with Boieldieu, Thomas Mills, A. Carriere and Charles Lefebvre. Certainly no Roses at the exhibitions repay high cultivation with such perfect results as the two first named, and no lesson fixes itself on one's mind more surely than the wisdom of growing only the best sorts.

C. M. HOVEY showed a Mabel Morrison, pure white, which I find marked in my notes, "beautiful as a Rose can be;" also, Louis Van Houtte, a beautiful, small dark Rose, of fragrance distinguishable in the floating perfume which destroyed the odor of most individual Roses. Madame Gabriel Luizet was in most collections far behind the specimens at the March meeting, except Mr. W. H. SPOONER's prize six blooms. Next to Baroness Rothschild, Mabel Morrison and Madame Gabriel Luizet, the greatest attention was drawn by Jean Soupert, that superb, vivid dark Rose, so distinct in color, the warm red of arterial blood shading to black on each petal, with golden stamens, vigorous, of the finest velvet, and perfume to rank with Camille de Rohan in

the high aristocracy of Roses. Monsieur Boncenne, to be sure, took the prize for the best twelve blooms; but it is the way of things that the prize dog or Rose at an exhibition is not always the one you would prefer to have in your house, the scale of points, mysterious in outsider's eyes, dictating the choice. Well, Monsieur Boncenne is a finely cupped, dark crimson Rose, with deep shading, a good Rose, not of the largest size, like the swollen Magna Charta, Princess Christian, Beauty of Waltham, and other English sorts, over-grown as prize Devons. Among the dark Roses also is the Souvenir de Spa, deep crimsoned and finely petalled, Abel Carriere, deep and velvety, and Marquise de Castellane, quite a fashionable Rose just now.

FRANCIS B. HAYES, President of the society, whose taste ranks even higher than his success as a grower of the finest plants, includes Jean Soupert in his choice collection, with May Turner, a large, blush Rose, much curled and superb, Boieldieu and Edward Morren, a high-shaped, pink Rose, crowded with petals.

J. S. RICHARDS, of Brookline, had a very interesting collection of less known varieties, especially of fine blush Roses, like Mrs. Hassard, a fine, full pink, Marguerite de St. Armande, a lovely pale Rose, one would wish to keep as a souvenir, and the only fine Countess of Oxford, with its varied deep blush and superb buds, a good Empress of India, deep crimson, and the Souvenir de Spa, which is really a scarlet Rose. In refinement of color one would group Mrs. Hassard, then the Madame Gabriel Luizet, in its fine, pale pink, Baroness Rothschild, still paler, Merveille de Lyons, wide open Rose, white and blush, like the old Damask, a superb Rose, and Madame Plantier, of which Mr. JACKSON, of Dorchester, sent a vase which deserved remark as the most graceful of cut bouquets. The novelty of most general interest at the exhibition was Mr. RICHARD's hardy pillar Rose, Boston Belle, the freshest vivid pink imaginable, among its green leaves, as much beyond the Queen of the Prairies as that was beyond everything else when introduced years ago; it is a novelty every home will want to have.

Mr. W. H. SPOONER'S Roses, which as perfect specimens ran the challenge

Roses close, his Moss Roses which gained the prize; Mr. J. M. MANNING'S collection of Lilies, and many other of the most instructive features of the show, must furnish subjects for another letter, for an exhibition, not merely a pleasure for a day but rightly taken, is a lesson for flower growers everywhere, lasting long after the season has faded.—SUSAN POWER.

THE CARDINAL FLOWER.

Autumn's chief glory among plants is the Cardinal Flower. All the splendor of Golden Rod and purple autumn Asters are lost upon me after this glowing flower prelate appears upon the scene. Wherever a winding stream glitters through a bower of leaves, or a swamp combines the coolness and moisture which this plant loves so well, there gleams its red banner brightened by its setting of cool, green leaves.

The prettiest "flower show" that I ever saw was a long-neglected bog in the center of a little valley grown up with tall Ferns, and all ablaze with Cardinal Flowers; and the Ferns and flowers in a vase have graced and glorified my table every autumn since.

It is a good natured sort of plant, as its cheery face betokens, and will grow in almost any place where the sunlight does not fall directly upon it, and where the soil is rich and sandy, besides it must have plenty of water. The plant has large and conspicuous seed vessels, and grows to the height of about two feet. None of the other native species of *Lobelia* are so handsome as this. The blue species are much in demand with herb dealers, and are growing scarce. It is curious to hear the darkeys, who are great root diggers, speculate about the probable uses which "dem doctors in de Norf make of dese yere weeds." One old fellow, a sage among them, surmised that they might be made into a remedy for sore eyes, whereupon he experimented upon his own, and "couldn't see a wink for two weeks."

Fortunately, no great medicinal qualities have yet been discovered in my favorite; its bloom is probably a sufficient excuse for its existence, and its mission, to "comfort man and whisper hope," as winter's mantle falls over us.—KATE ELICOTT.

SINGLE vs. DOUBLE FLOWERS.

I must say a word or two in favor of single flowers. I cannot enter into the craze for them as some florists do, but a few sorts would be utterly spoiled for me if doubled. The Sweet Brier Rose, for one. Nothing can be more delicate and lovely than it is, and there can be no improvement that I can see, though I would like a white as well as a pink variety. Is there none? I have been sniffing around my big bush every day for a week past, watching developments, and this morning found a lovely pink cup, which I immediately cut, together with its cluster of buds and leaves; a deliciously fragrant bouquet. Have that flower doubled? No, indeed. Nor the Pansy, nor any other flower whose special mark of beauty is its veinings and markings. A double *Petunia*? Yes, for winter bloom, is well enough; though not as handsome as a fringed one, it somewhat takes the place of Roses, which are not so easily managed in winter.

Do not give me a double *Hibiscus*, though you may allow a few little straggling petals in the cup, just to show what wonders it might perform if asked to. A *Centifolia* Rose in my neighbor's yard is very sweet, but so double that I prefer even the little Scotch Rose. *Tropæolums* double? Yes, just one, but not all of them for the world. A flower that can be doubled in the manner of a *Datura* is fine, but how foolish to ask for a double Morning Glory, *Verbena*, *Gladiolus*, *Mirabilis*, and all such fine, open flowers, with special beauties in the throat excepting *Verbena*, which, with many others, has rare delicacy to commend it.

Of course, Roses generally should be double, though I would not seek those that are extremely so. Hollyhocks are fine either way, and I much prefer a double *Carnation* to a single one. *Pæonies* cannot be single, and *Balsams* are much finer double; they lose nothing, but are improved. *Asters* and *Chrysanthemums*, I think, should generally be as double as they can hold, also *Zinnias*. *Dahlias*, let's have them both ways. The Pinks, too, are pretty either way. There are genuine *Chrysanthemums* with bands or rings of different colors, which would be lost in doubling.

I might keep enumerating through the catalogue, but will say no more, only to

repeat my respect for the Sweet Eglantine as it is, and beg you to let the Pansy alone, so that it will not cease to wink at you in its cunning way every time you come near.—ROSINA A. HOLTON, *Smithville, Illinois.*

A SAGE DISCOURSE.

The inquiry of Mrs. C. V. S., about herbs, in the June number, and the editor's invitation to exchange hints about them raise a pleasing hope of interest in this neglected, but most valuable, class of plants. Their freshness,

have found them more effective than ranker drugs. If people used herbs more in food as salads and spicings they would need them less as medicine. I have always had a partiality for herbs and a curiosity about their virtues, but found few modern spirits to share the taste. However, by a hint here and there, by reading in old herbal dispensatories and botanies, the knowledge craved gathers in time, and I will put some things into shape, in hopes to draw forth more from others and wiser ones.

Sage, the staple herb of gardens and

kitchen boxes, is hardly valued or treated according to its virtues. The ancients gave it the name for its power in strengthening the brain and memory, an opinion which the modern generation holds as a groundless notion, ignorant of its effects in strong decoctions in soothing the nerves, regulating the circulation, leaving the head clear and the mind of necessity fitter for its duties. That Sage tea is good for a cold is part of the wisdom of our forefathers; but their fathers were better acquainted with its properties yet. Eaten green, or drank in a



BROAD-LEAVED ENGLISH SAGE—I. A WELL-GROWN PLANT. 2. AN OLD PLANT WITH NAKED, WOODY STEM.

"seeming and savor," in garden plats or window boxes, their flavoring uses and their value in medicine, ought to commend them to closer affection and care. It is no sign of intelligence to decry the virtues of herbs. The most experienced physicians find themselves ever again returning, with Arabian magi, monkish doctors, mediæval philosophers, and close observers in every age, to the wisdom of SOLOMON concerning the plants of the field, to the herb-lore and wort-cunning of our Saxon ancestors. Herbs for the healing of man have not lost their potency for pleasure and healing, though we prefer to take them in shapes that lose all recollection of the native plant. I have been surprised within a very few years at receiving from city physicians of the highest cultivation recipes that called for the simples of our grandmothers, and

strong infusion, Sage has, in secondary degree, something of the virtues of the Peruvian herb, Coca, as a nerve tonic, without unpleasant reactions. Overwrought housekeepers might fly to far worse relief when nerves and fibers threaten to fail them in hard work than a draught of cold Sage tea, made from the leaves freshly gathered in their gardens.

Herb teas are seldom made strong enough to do real good; a double handful of leaves and sprigs to a quart of boiling water is proper quantity for a tea to drink, and the quart should be boiled down to a pint for medicine. Strong Sage tea is an excellent restorer of hair, prevents it from falling out and deepens the tinge of obnoxious pale tresses. A broad, rough Sage-leaf rubbed on the teeth cleanses them and purifies the gums. Sage and honey is an old specific

for nursery troubles, like thrush and irritated gums, the herbs having an antiseptic property. One would plead for its more frequent use in cookery, giving insipid stews and roasts a relish for which we might be thankful, while the antiseptic quality, just spoken of, causes meat to keep longer that is well flavored with it.

Of the four varieties commonly known, the Green Sage is oftenest grown, though the Red Sage is preferred for flavoring :



SAGE TOP READY FOR CUTTING—ONE-HALF NATURAL SIZE.

I like the taste best when mixed. For medicine the narrow-leaved Green Sage, known of old as the Sage of Virtue, and the broad-leaved Green, or Balsamic Sage, are most esteemed. The White Sage of the American plains is a plant of great medicinal virtues, though chiefly known for its effects on the hair. As a syrup for consumption, its efficacy recalls the high opinion in which the alchemists held the European Sage. To get its restorative effects to the full, I would advise one to encamp in the vast Sage meadows of the Humboldt division of the Central Pacific railroad, where, in the boundless sunlight, the wide, electric calmness, the dry, lofty air aromatized with the Sage breath, one of the finest of scents, it seems as if decay could never come. I have a little cluster of White

Sage, gathered at Humboldt Station nearly two years ago, and sacredly kept. When open it still perfumes the whole room with its strong, wild odor, rich as eastern aromatics, and recalls the pure, free, clear atmosphere of the high plains, which one who has known it forever regrets.

Like the White Sage of the desert, our garden Sage on its native Mediterranean coast, grows to the size of an under-shrub, with woody, branching trunk, in habit suggesting a dwarf Oak. Several ornamental varieties are known with white margins to green leaves and various markings, attractive as foliage plants. The tri-colored Sage, with pink, white and green pencilings, is one of the prettiest border plants when well grown. Beds of this Sage, with scrolls of dark Ivy pegged down among it, and a single, fine, vivid Geranium in the center, is as ornamental as any thing to be proposed, with a little care. The bed should be not less than ten feet across, and the Geranium grown to exceptional size.

The Sage bed in the garden, and, indeed, the whole herb border, should be warm, mellow soil, which need not be rich. Herbs and aromatics draw their nurture directly from the clay, sand and chalk. Rich vegetable soils do not seem to suit them as well as fields where little else will grow. In deep, fertile earth the plants are large and leafy, but yield far less volatile oil, and are not so fragrant and strong in flavor. A dressing of sand, finely sifted coal ashes, with spent lime or old plaster, is to be recommended for the herb bed in most gardens. This needs to be well worked in, for herbs do not object to a deep, mellow bed, though they like a poor one. Plant Sage in showery spring weather, in rows fifteen inches apart, thinning plants to one foot in the rows. It is easily raised, and a bed once made is good for four or five years, keeping the soil loose and the weeds down. A bed is easily made from cuttings or slips before the hot, dry weather comes on; watering well and shading till they take root. Improve the time before showers or in foggy weather,

to put in seeds, plants and cuttings. They get a day or two of good weather, which is often enough to save them, and give them a good start. Pinch off the seeds of the Sage shoots when three or four inches long, to make full, shapely plants that run to leaves, not flowers.



SAGE—UPPER THIRD OF A FLOWER SPIKE, NATURAL SIZE.

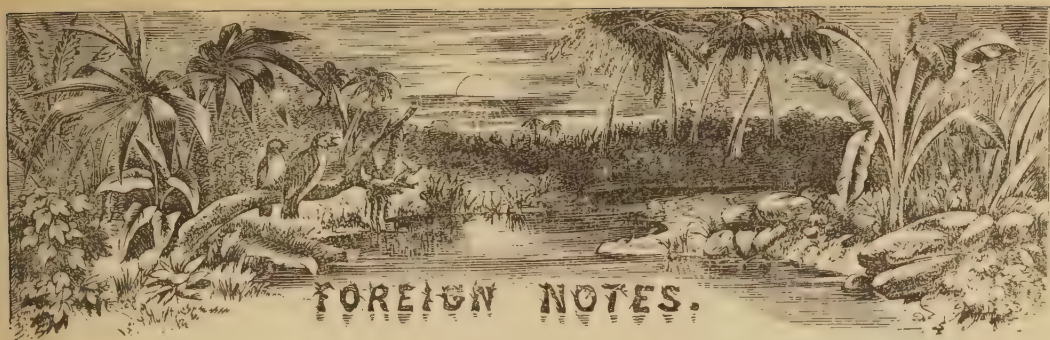
To have good plants year after year, cut only the tender top and side shoots instead of moving the whole herb, and leaving it to sprout as it can from the bare root. Gather just before flowering for kitchen use, and cut about ten o'clock, when the sun is on the plant, the dew dry, and the leaves full of their aroma. Tie the stems together, hang tops down by a string out of doors, and dry quickly; then keep in paper bags or tin boxes with close covers. Dealers now prepare herbs by grinding them to a powder, fine as ground spices, which saves every fragment usable, and is very nice for flavoring.—SUSAN POWER.

THE CACTUS.

It may seem strange to those persons, not admirers of the Cactus, that any one can see any beauty in such a plant, often covered with thorns which pierce us, and in its best estate, destitute of that easy grace which helps win our regard for our favorites. But there are enthusiasts engaged in making collections of the Cactus plant, and if it is true that it is to be used, and perhaps used up in time, for manufacture, Cacti collectors will increase in numbers indefinitely. If, as stated, it will take only seven years at the present rate of waste to annihilate all the Yellow Pine, the question of Cactus growth is only a question of time.

A Boston paper states that the "Mexican government is encouraging the manufacture of paper and textile fabrics from Cactus, and has recently granted important concessions to the individuals who propose engaging in the new industry. They are given the exclusive right to gather the Cactus for ten years, from government lands. The grant further provides that for each mill of the value of \$150,000 erected by the grantees for the manufacture of paper from the Cactus leaf, the government shall give a premium of \$30,000."

Paper, it would seem, can be made from almost anything, but what about the textile fabrics? One of the most beautiful bonnets I ever saw was made from the Cactus fibre, so it was said. It had a silvery sheen unlike any other material. Now, if the bonnet and hat manufacturers take hold of this industry, and make their goods of it, they will not be long in diminishing the supply of plants. Bonnets are short-lived. Only a few seconds suffice to make a hat or bonnet on a sewing machine, and one man can press ninety dozen a day, on an average, by machinery. On lands well adapted to the growth of the Cactus it may prove as cheap to cultivate the plants, and raise them on a grand scale, as to gather the wild plants when they become scarce. That they could be produced at a low cost, if there should be sufficient demand, there is little doubt.—ESDI.



PLANTS IN THE FIREPLACE.

In England a group of plants is now made to enliven the fireplace during the mild weather. Of course, in such a place removed as it is from the light, plants can remain only a few days at a time, after which they are exchanged for a new set. The following on this subject is from the *Gardeners' Magazine*:

"The employment of plants for the decoration of the fireplaces in the principal apartments is steadily increasing, and much might be said in its favor, for, when the plants are appropriate and tastefully arranged, they present a far more attractive appearance than any of the so-called grate ornaments. The most useful plants are such as afford striking forms and pleasing tones of green or variegated foliage. The Palms, Dracænas, Grasses and miscellaneous 'foliage' plants of neat, and generally speaking, light habit should predominate—lumpy plants presenting large surfaces are not suitable—and there must be a fair proportion of color to light up the group. For this purpose the flowers should be choice as well as showy. A general objection may be urged against all kinds of bedding plants as unsuitable; the same principle should be followed in selecting the flowers as the leaves, form and a certain airiness of style being of great importance. Hence a neat tuft of white Marguerites peeping out from amongst grassy leafage will be far preferable to a scarlet Geranium. Many greenhouse plants answer admirably for this kind of decoration, which never need be costly, but must always be tasteful, and combine richness and delicacy without any strong display of color. A simple procedure that may or may not answer, as the case may be, consists in covering the back of the grate with cheap thin paper of a very dark

green color, and putting it on as much crumpled as possible, so as to be practically invisible, to afford a kind of distance rather than a background, its real purpose being to conceal ugly ironwork and to prevent the intrusion into the midst of the plants of any such features. The plants must be all clean and dry when placed in position, but the soil in the pots should be moist enough to carry them through for a few days, when a change must be made for the sake of the plants."

MUSHROOMS.

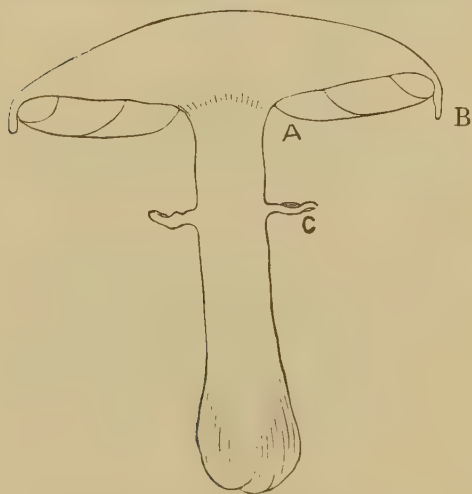
A writer in *Gardening Illustrated* gives the following very simple, but very accurate instructions for distinguishing edible Mushrooms from those that are poisonous:

"The true Mushroom, *Agaricus campestris*, is invariably found amongst grass in rich, open pastures, and never on or about stumps, or in woods. Many cases of poisoning have occurred owing to the supposed Mushrooms being gathered from stumps or in woods; it is true there is a certain variety found in woods and woody places, *A. silvicola*, but, as far as amateurs are concerned, it is best left alone. A second very good point is the peculiar, intense purple-brown color of the spores, which are analogous to seeds; the ripe and fully mature Mushroom derives the intense purple-brown color, almost black, of its gills from the presence of these innumerable colored spores. To see these spores, and so become acquainted with the peculiar odor, remove the stem from a Mushroom, and lay the upper portion, with the gills lowermost, on a sheet of writing paper; in a few hours the spores will be deposited in a thick, dark, impalpable powder. Several dangerous species, at times mistaken for this Mushroom, have these spores umber-

brown or pale umber-brown in color, and belong to *Pholiota* or *Hebeloma*. In the accompanying figure is shown a vertical section of the true Mushroom, which differs, when the color of the spores is taken into consideration, from almost all other *Agarics*, and certainly from all poisonous ones. One of the principal points



TRUE MUSHROOM, *AGARICUS CAMPESTRIS*.



SECTION OF TRUE MUSHROOM.

to be observed is the distinct and perfect collar at C, quite encircling the stem, and the edge of the cap at B, overlapping the gills; in some poisonous allies, as *A. æruginosus*, generally found on and about stumps, this ring is reduced to a mere fringe, and the overlapping margin is absent, or reduced to a few mere white fleck or scales. Lastly, the gills never reach or touch the stem A, for, on inverting a Mushroom, a blank space will be seen all round the top of the stem where the gills are free from the stalk. There are innumerable varieties of the true Mushroom, but all are equally good for the table; sometimes the top is white and

soft, like kid leather; at other times it is dark brown and scaly. Sometimes, on being cut or broken, the Mushroom changes color to yellow, or even blood-red; at other times no change whatever takes place. But, observe, the Mushroom always grows in pastures, always has dark purple-brown spores, always has a perfect encircling clothed collar, and always has gills which do not touch the stem, and a top with an overlapping edge."

FORESTRY EXHIBITION.

The International Forestry Exhibition now being held at Edinburgh, is said to be a gigantic affair, and represents the woods and wood industries of most parts of the world; it includes the implements and machinery employed, and a great number of manufactured products.

A park of seven to eight acres in extent has been set apart for nurserymen and others, "in which is a fine display of specimen trees, horticultural buildings, Swiss, Californian and Canadian cottages, as well as a model of the Queen's Highland Chalet, from Balmoral, which latter seems to attract a more than ordinary amount of attention."

It is impossible to mention here in detail the immense number of objects on exhibition, for what is there for which wood is not employed! Many of the tourists from this country will be apt to make a visit to this exhibition, who might not have done so if the fear of contagious disease had not prevented, or, at least, shortened their continental trip.

A HANDSOME POPPY.

Papaver umbrosum, figured by the *Gardeners' Chronicle*, is a remarkably handsome, showy flower. "The brilliant crimson color of the petals is set off by a large blotch of shining black, which produces a most striking effect." It is a splendid companion for the Danebrog Poppy, which has a large white figure for the central portion, like a Maltese cross. One of the richest pieces of flower-color we have seen this season was a mass of bright scarlet Poppies, early in the season, and evidently from plants produced by fall sowing. By sowing seeds in the fall, and at intervals in spring, Poppy blooms may be had in succession a long time and nothing can give the garden a gayer effect.



PLEASANT GOSSIP.

GASOLINE HEATING.

In recent numbers of your MAGAZINE are queries about greenhouse heating, also mention of a prize essay on small conservatories, which I anxiously await the publication of. Here, where coal is expensive, anthracite \$15.00 a ton, gasoline stoves of western make are coming into free use. Do you know of any objection to the use of gasoline for heating, where provision would be made to carry off the foul gas? The saving in cost over coal, the saving in space over stoves, and, more than all, the minimum of attention required to keep up steady, equable temperature, would commend it, if practicable, and induce many to have small conservatories attached to their dwellings. I have just had a small one finished, and await heating apparatus.—CHARLES INCHES, *Scribner, Nebraska.*

We know of no objection to the use of gasoline in the manner proposed, but think it will prove to be well adapted to the heating of conservatories. We hope the writer of the above will give our readers the benefit of his experience in gasoline heating, after making a sufficient trial.

TUBEROUS BEGONIAS.

Will you please state how the Tuberous Begonia is propagated? We like the MAGAZINE very much, and cannot see how any florist can do without it.—S. BROS., *Zeeland, Mich.*

Tuberous Begonias are raised from seeds and from cuttings. The natural species can be most economically raised from seed, while hybrid varieties are propagated by cuttings. The details of both these methods may be found in earlier volumes of the MAGAZINE. See page 253, of volume 4, 1881, and page 45, volume 5, 1882.

AMORPHOPHALLUS.

Will you please inform me to what order of plants the *Amorphophallus Rivieri* belongs?—LIZZIE J. WARD, *Aurora, Illinois.*

It belongs to the order Araceæ; that is, it is associated with the Arums, such as our Jack-in-the-pulpit, and the Dragon plants, with the Calla, and the Symplocarpus or Skunk Cabbage.

ARTIFICIAL MANURES.

Please state whether you recommend "Plant Food" as sold by druggists, for house plants, especially Roses.—MRS. AMANDA PINGSEY, *Blairstown, Iowa.*

The mixtures sold as "Plant Food," and by other names, put up by respectable firms engaged in the manufacture of artificial manures, so far as we have any knowledge of them, are valuable as fertilizers for house plants, and can be employed to advantage as occasion may demand.

RED RUST ON ROSES.

A red rust appeared, the last of July, on the leaves of Roses in the nurseries in this vicinity, and, as we learn, in some other parts of the State. The variety most affected was General Jacqueminot; a block of several thousand two-year-old plants at one establishment had every leaf destroyed in a short time, so that they dropped from the plants. The red rust appears like a fine dust dotted about on the under sides of the leaves and on the leaf-stems. As soon as the leaves dropped a new growth started at the extremities of the shoots, and at this time, August 7th, the young leaves appear healthy. Although this rust is not an uncommon visitor, we never knew it before to do so much damage; usually it would not be noticed, except by an experienced observer.

A specimen of the diseased leaves were sent to Prof. C. H. PECK, Curator of the State Museum of Natural History, and in response the following answer was received:

The rust fungus on Rose leaves, which you send, is the earlier or uredo stage of the *Phragmidium mucronatum*, Lk. The latter form has already made its appearance in a few places on some of the leaves. It is blackish in color, and probably in a few days, or weeks at most, there will be plenty of it. No very satisfactory explanation can be given of its special fondness for certain varieties. It is generally

supposed that the weakest varieties, *i. e.*, constitutionally or vitally weakest, are the most liable to attack. Thus, certain varieties of Potatoes are known to be more liable to the attacks of the Potato-rot fungus than other varieties, and it is thought by some that the newer and more vigorous varieties are most exempt. Whether this is the real explanation I am unable to say, but, as in the case of zymotic diseases, it may have some influence in determining the attack or its severity. It is not probable that any application will do any good, for in this case the mycelium works within the leafy tissues, and the spores break out and show themselves on the surface; hence, the only way an external application could be of any use would be in destroying the vitality of the spores it might come in contact with.

—CHAS. H. PECK, *Albany, N. Y.*

PROPAGATING DAHLIAS.

I noticed one of the subscribers of your MAGAZINE asked "how Dahlias were propagated?" I raise them successfully in four ways: 1st, from roots; 2d, from slips from the Dahlia roots, as we do from the Sweet Potato; 3d, from cuttings, and 4th, most satisfactorily, from seeds. I planted one-half a paper of your seeds, gave the others away, and have fourteen as pretty Dahlias as I ever saw; they are from the purest white to the darkest shades of red and yellow. Some of the seedlings are five feet high now, and covered with flowers, and with one exception they are not so stiff as the old varieties, and, strange to tell, the seedlings have bloomed as early and as well as those from roots. I left some Dahlia roots in the ground, last winter, hoping to have early flowers, but was disappointed, they have not bloomed yet. The plants, however, look well and may bloom later. I would have had more than fourteen Dahlias now from the one-half paper of seeds planted, but I transplanted some and they died.—S. C. Y., *Greensboro, Ala.*

PEAR BLIGHT AND BACTERIA.

Prof. J. C. ARTHUR, the botanist of the New York Agricultural Experiment Station, made experiments, last month, in inoculating Pear trees with the virus of trees diseased with the fire-blight. The virus, a viscid, yellowish fluid, that exuded from a diseased branch was inserted with a needle into the branches and leaves of healthy trees. "In from six to eight days every branch inoculated showed signs of the blight. The bark turned brown, and then blackish about the puncture, the color extending gradu-

ally through the stem, passing upwards toward the end of the branch much faster than downwards or around the branch." Inoculating branches of Apple trees was equally successful, the disease showing itself in eight days after.

These experiments are similar to those made by Prof. BURRILL, of Illinois, in 1880 and 1881 and afterwards, and corroborate the results he has obtained. In regard to these experiments, some sixty in all, Dr. STURTEVANT, Director of the Station, makes the following general statements: "The disease known as Pear blight is infectious, and may be transmitted from one tree to another by inoculation. It is not confined to the Pear, but may attack other pomaceous fruits, as the Apple, Quince, English Hawthorn and June Berry. It is more active, and progresses most rapidly upon young and succulent portions of the tree.

"Experiments are now being tried to determine the mode by which the disease is naturally propagated."

GOOD TEACHERS.

How poor and feeble would be the requirements of our children if they were obliged to grope their way along in their studies and learn everything for themselves. The great progress of the world since the art of printing became prevalent is due to the fact that much of the accumulated wisdom of our ancestors can be, and is, comprehended individually, and is made available for beneficent results. Good books and good papers are our silent but effective teachers from childhood to age, and every home should be well supplied with the best current literature of the day. We are a nation of readers, and must be supplied with mental nutriment, and this should be of a quality that will make us stronger and better for all good service to our brother man; it must be such or we shall be made worse by its use. In connection with our MAGAZINE we offer to each subscriber at the single price of it, a copy of the pure, interesting and instructive monthly journal, *Good Cheer*, which is now becoming so well known in the best families of the land. This is worthy of mention to your neighbors and friends, and we expect all our readers to let others know about our offer.

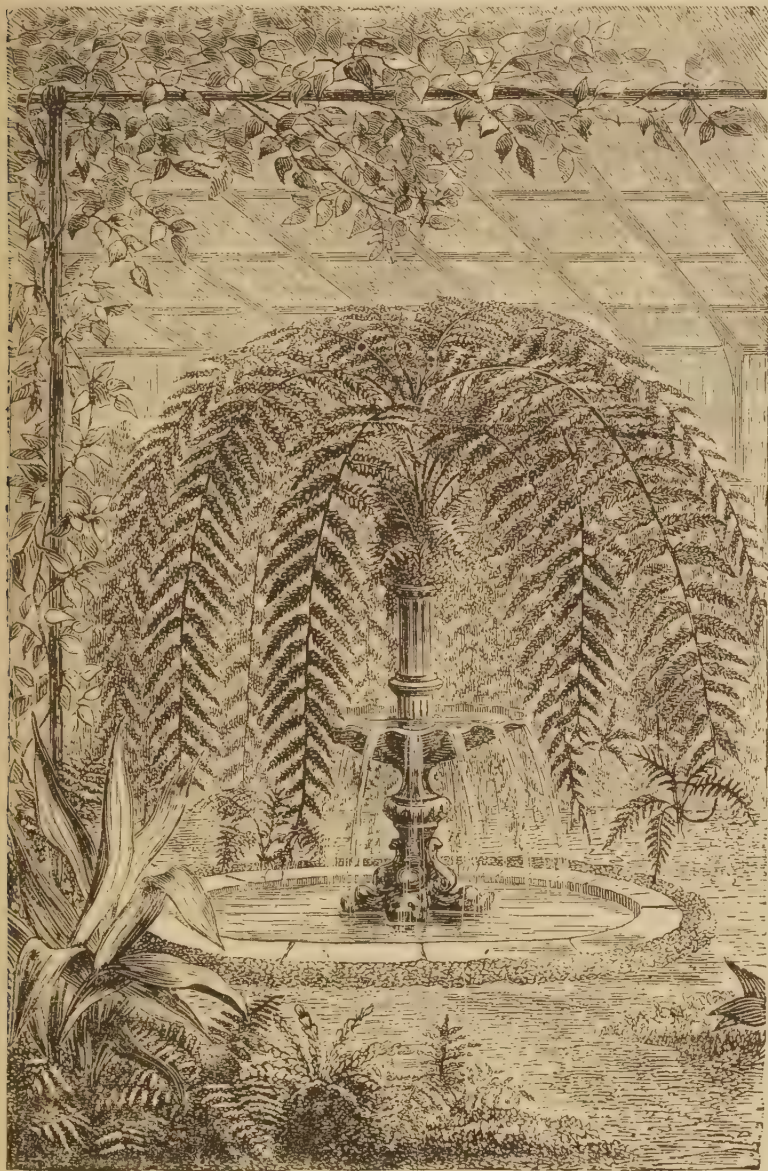
A HANDSOME FERN.

A handsomer plant to ornament a greenhouse or conservatory can scarcely be imagined than the graceful Fern here shown. The Woodwardias are all interesting, and some of them of a bold aspect. *W. radicans* is a native of the island of

liar to this species, but is common to quite a number of Ferns otherwise very dissimilar; the Walking Fern, of this country, is the most familiar example among Ferns of this method of reproduction that we can present to our readers. The little plants lying on the sur-

face of the soil send down roots and soon become independent of the parent plant. When the young plants have made roots and been cut away from the fronds it is necessary to pot them in small pots, and care for them properly until they become strong.

As a decorative plant for a large room, nothing is finer than a well grown specimen of this plant. A rich loam is the most suitable soil, and it delights in plenty of moisture. An American variety of this species, *W. radicans Americana*, is a native of California; it does not grow to the size of the one we have described, but makes fronds from two to four feet in length, and possesses the same habit of forming young plants at the tips of the fronds. *W. radi-*



WOODWARDIA RADICANS.

Madeira, and is, in some respects, the finest representative of the genus. With good treatment in the greenhouse this Fern will produce fronds eight or ten feet in length, and when supported on a pedestal, in a manner represented in the engraving, it forms an object of extreme beauty. One of its most attractive features is its habit of producing young plants at the extremities of the fronds. This method of reproduction is not pecu-

cans and the California variety will undoubtedly prove hardy in out-door cultivation in many parts of the south, in localities that are favorable, and there they can be grown as rockery plants in connection with the varieties of Woodwardia of the Atlantic States. The peculiar and graceful form of Woodwardia radicans in the position here figured approaches, if it does not rival in beauty, one of the finest specimens of Tree Ferns.

LETTER FROM JAMAICA.

Having promised to give my further experience with Roses, I regret to say that I am still unsuccessful; although more healthy looking plants could not be desired, still they will not bloom. I followed the instructions you sent me in October last, and bent the shoots down to the ground; they threw out a lot of young shoots, but still not a blossom. In May last, a visitor remarked that my Roses were growing too rank, and advised me to cut them back. I tried the experiment with Madame Victor Verdier, Baronne Prevost and La Reine; the result was I cut one superb beauty and three inferior ones from Madame Victor Verdier, and several inferior ones from Baronne Prevost and La Reine. The latter Rose is almost identical with the Martinique Rose, so common here. My buddings grew nicely at first, but all died eventually.

My Roses are planted singly on the lawn, at intervals of six feet apart on each side of the carriage drive. Perhaps it may interest some of the readers of the MAGAZINE who may have plants or trees so arranged, if I describe a successful invention of my own. Thinking it would be an improvement if each plant had been apparently set in a very large flower pot and sunk into the ground, I made little slabs of Portland cement and sand; it took twenty-four of these slabs to each plant, which being inserted half way in the ground and painted red, gave an appearance of a very large flower pot, measuring two feet six inches across the top. To make the slabs, prepare a wooden mold three and a half inches wide, one and a quarter inches deep and twelve inches in length and rounded at the top; take equal parts of cement and sand, mix as you would mortar, pour into the mold and place in the sun to harden. This will give little slabs almost as hard and quite as durable as granite. I hope that some of your readers will try it.

I have kept a diary during the last four years, and I find that all my plants, especially Geraniums, commence to deteriorate in the month of July, and flowers of all kinds are very scarce. I also find that the best time for sowing flower seeds is from December to April, not later.

My Grape vines, Duchess and Early

Dawn, which gave me a crop in March last, are again bearing. Is not this unusual?

You will be pleased to hear that the MAGAZINE is becoming very popular in this district. I am constantly asked to lend my volumes, but, like SUSAN POWER, I value them too highly to part with them. I have not time or space to tell you now of the public improvements I am endeavoring to make here by planting trees and shrubs, but I shall reserve that for another time. I should be most happy to receive a few seeds of trees or shrubs suitable for a hot climate, from any of the readers of the MAGAZINE, in exchange for Jamaica seeds.—WM. SPECK, *Port Maria, Jamaica, West Indies.*

A GARDEN JOURNAL.

September 1. Trimming the edges of the lawn along the walks, and cleaning up.

3. Cutting out old Raspberry canes and young ones not wanted, and tying up all that are left for fruiting.

4. Sifting soil for potting.

5 and 6. Saving seeds of Larkspur and Sweet Peas. Commencing to repot Begonias for winter.

7. Removing Abutilons from the open ground and potting them. Sowed Winter Spinach. Nights are very cold for the season; the thermometer falls every night as low as forty to forty-six degrees.

8. Shaking out and repotting Callas. The pots containing the plants have been lying on their sides all summer. Taking up and potting Paris Daisies, Chrysanthemum frutescens.

10. There was a light frost last night, cutting the tops of the Tomato and Coleus plants. Taking off the suckers from the Celery, and earthing it up.

11. Planting Roses in the greenhouse, and a large Allamanda. A heavy frost last night injured Corn and Tomatoes.

12. Shaking out the soil from old plants of Aspidistra lurida and repotting them.

13. Taking up and repotting Chrysanthemums from the open ground; they have made a good growth and are fine plants.

14. Picking Bartlett Pears and storing them in the fruit cellar, giving them a little air, but keeping them as cool as possible.

15. Taking up and potting the tricolor varieties of Geraniums, Mrs. Pollock and

Happy Thought. Repotting Stevias and Lobelias for winter bloom.

17. Taking up and potting Alternanthera and Coleus for winter stock.

18. Cutting Summer Savory and Sage to dry for winter use. Pulling Onions and throwing them into rows on the ground to dry.

19. Picking German Prunes.

20 and 21. Lifting and potting Carnations for winter bloom.

22. Finished removing suckers from the Celery, and earthing it up.

24. Thinning out and hoeing Winter Spinach.

25. Planting Pansies and Violets in frames attached to the greenhouse, where they will get a little heat through small doors made in the side of the greenhouse, opening into the frames.

26. Saving seeds of some annual flowering plants.

27. Tying up the Endive and Cos Lettuce to blanch for fall use.

28 and 29. Setting Strawberry plants.

EARTHEN RINGS FOR BULBS.

A writer in *The Garden* describes his method of raising bulbs in earthenware rings which may be of use to some who, like the originator of them, have but "limited space," and therefore must raise them in "mixed borders," where, when grown, "their exact whereabouts often get forgotten, and in the moving of other plants, and the necessary work of the border, the clumps get dug in half, and the bulbs scattered over the border, producing a most untidy effect."

The rings were made at the brickyard, where drain-tiles were being made. They were made of three sizes, nine inches, six inches and four inches in diameter and six inches in length.

"On receiving them I at once planted my Tulips, Lilies, &c., in clumps in these rings; the result has been most satisfactory. The rings are plunged into the border two inches under ground, and the bulbs planted in them and filled up, and they are safe. Their locality does not need marking, for when the spade is at work the ring proclaims its existence and so is easily avoided; at the same time being an inch thick, and supported on all sides by the soil, it cannot be broken easily. The advantages are that bulbs needing peat can be grown in a mixed

border by merely filling up the ring with the necessary soil; the surface of the pot or ring prevent wandering roots from eating up the food intended for the bulbs.

"Let us suppose that five Tulips are put in the first instance into a nine-inch ring; they can be left with advantage two years, at least, by which time the size of the clump will proclaim, by the space it occupies, that the ring is pretty full of bulbs, and in the autumn when the borders are gone over, the ring is just turned out with a clod of earth filling up its calibre and full of bulbs, which are shaken out, the largest returned, and the rest are stock in hand for the nursery or for giving away.

"The smallest size is used for edgings of small bulbs, such as Crocuses, Snowdrops and Squills, &c., the larger ones do well for Lilies, Tulips, Hyacinths, &c. They economise bulbs, as each little corm, or bulb, is easily found and preserved, and as the whole clump comes up with the ring, no stray bulblets get into the border to disfigure its neatness next season."

The expense of such rings at a tile manufactory cannot be very great, but would be much increased if sent far, as they would be heavy freight. If any of our readers should be disposed to experiment with this method, it will be well to first utilize old tin fruit-cans, by cutting off the bottoms; any one can easily collect quite a number of these without cost, and probably before further expense might be incurred it would be well to be satisfied that the plan is of real utility.

JAMAICA BANANAS.

The export of Bananas from the Island of Jamaica for the quarter ending March 31st, 1884, was 333,105 bunches; for the same period last year it was 157,639 bunches. The average price this year was 2s. 3d. a bunch, and last year 2s. The total value of this product for the period named of this year was nearly once and a half more than for the same period of last year. As most of these Bananas are brought to this country, it will be seen that their consumption is largely on the increase by our people.

JAPAN QUINCE ON THE PEAR.—The Japan Quince has been successfully grafted on the Pear stock in France.

GRAPE-VINE GRAFTING.

I will give you my experience in Grape-vine grafting the present season. I commenced to graft when the vines had made a new growth of one to three feet, but found that even then they bled freely. I did some grafting for a week or ten days and see no difference in success between the first and the last. I used a thick saw both for cutting off the stock as well as for the cleft, instead of splitting, as usual. I sawed off the stock a few inches below the ground, then sawed into the end about one inch. The graft was cut with a shoulder, the tenon fitting tightly. I worked on vines from one inch to two inches in diameter, hence, no necessity for tying. The result was that all seemed to start, and I thought the thing a grand success. Now, after the battle is over, July 15th, I find just about half living, some of which have grown too fast, while others are barely alive and moving.

I grafted about a dozen strong vines above ground, and the operation has proved a complete failure. Some were grafted like the others, some cleft with the knife, while others were crown-grafted and tied, all well cemented, yet the sap forced itself through and kept the graft so wet that some of them started and grew two or three inches, but at this date all are dead.

In my forty years operating on the vine, I have succeeded but twice in having grafts grow above ground. One of those cases was a big vine, about three feet from the ground, which made an enormous growth that season, and bore nearly a bushel of Concords the following year, and was, I think, the first of this variety raised in Pennsylvania. The other was a small vine, about six inches from the ground, in which the union was so complete that one could hardly see where the operation was performed.

But I have another mode of grafting vines that I deem a very important one, when we want to multiply new varieties. I take clean roots, of a thickness from that of a common straw to that of a lead pencil, cut two or three inches long and insert them into the graft at the base. If the wood is long-jointed one eye to the graft is enough, but if short-jointed two eyes, as here illustrated. Wrap the joint well with the waxed twine, and lay the grafts in boxes in layers of sand or

moss, similar to Apple grafts. If done early, they can remain in the cellar until spring comes, when two weeks of bottom heat will make a sure thing of them. When they have grown an inch or so they can be exposed to the full sun and air for a few days, and then planted out in rows or beds. I usually set mine three broad in rows, six inches apart, and the same distance along the rows. I can now show five hundred of these from six inches to two feet high, that were grafted in March, which by fall will be number one vines, among which are quite a

ROOT-GRAFT
OF
GRAPE VINE.



number of new and rare ones. Five hundred of these grafts can be laid in a box eighteen inches square, without needing a single pot, potting or shifting, as is usually done when propagating from single eyes. I have had such eyes grow eight feet long. Rooted cuttings and spare vines can also be used, cut in pieces with side roots to them, but they will be more trouble in keeping off the suckers.—SAMUEL MILLER, *Buffton, Mo.*

MINNEWASKA BLACKBERRY.

The veteran originator of new fruits, A. J. CAYWOOD, is tireless in good works. We received from him, on the first day of August, a specimen of a new variety of Blackberry, of his raising. The following extract from the note accompanying it gives all the information we are possessed of, excepting that the fruit is large, being quite equal to the Lawton in this respect, and is borne in large clusters.

"We send, by express, to-day, a specimen of our new, hardy, seedling Blackberry, the Minnewaska. Hundreds of small fruit-growers have been here to see it. Those from New Jersey, who have always been in the business, say they have never seen its equal for productiveness, hardiness and average size. The specimens sent have ripened during the incessant rain of the past week, and are somewhat softened."

If it should prove as valuable as Mr. C.'s Marlboro Raspberry it will soon be widely known."

VIOLETS.

I notice in the August number of your MAGAZINE some remarks on the Violet, and information desired on the subject. "Old Subscriber" wishes to know the method of successfully raising the Violet. I have never found any difficulty in the cultivation of this plant. My first effort was with settings, or offsets. I chose this mode that I might have flowers the first year. The plants should be set in a sheltered spot, if possible, and sufficiently early in the fall to become firmly rooted. In spring, this fragrant, modest little floweret is one of the first to greet us. I have seen flowers peeping out through the snow. After getting a plant healthily started they need no care, except to keep down the weeds, and even these nuisances do not seem to annoy them as they do more ostentatious plants, possibly from the fact of their very compact growth. The uninitiated would be puzzled to discover the seed. The stem that bears the flower shoots up several inches beyond the leaves, but that stem perishes instead of bearing the seed, as most plants do. Down by the border of the plant is found a small pod, that to be sure of the seed should be taken off before expanding, otherwise the seeds become exposed, and, indeed, watch as guardedly as we may, a great many will drop round the plants, and here they germinate, and this way, in a few years, a few plants will increase to many. The plants send out offsets, something like the Strawberry, and multiply in this way, too. I have never found any trouble in germinating the seed. The flowers are lovely for bouquets, coming at a season when other flowers are scarce and high priced, it would be well for flower lovers to plant freely of Violets—L. B. LAVELL, *Brownsburg, Va.*

NOTES.

The account given by SAMUEL MILLER, in this number, of grafting Grape-vines this spring, is not encouraging to those who wish to practice this operation in the vineyard. As Mr. M. has had a long experience in the practical operations of the vineyard and nursery, it is probable that the success he attained in this spring's vine-grafting is an average one. If any one secures a better result ordi-

narily in this work, we hope it may be made known in our pages. If grafting the vine could be done with much certainty, vineyardists would often plant low-priced, strong-growing varieties to be grafted to those that are high-priced. Grafting the Grape-vine has always been considered an operation of much uncertainty, but recently there has been much said, and more or less written and published, to the effect that it is an operation as sure as the grafting of our common fruit trees. Many of our readers would like to be fully apprised of the facts in regard to this subject, and we hope the uniformly successful Grape-vine grafters, if such there be, will come to the front and make known what they have done.

The method of glazing described by the author of the prize essay in this number, will find general favor if it is not attended with drip. This has been the prominent fault in the many attempts that have been made to glaze without lapping, and it is to be hoped that the writer will let us hear more from him in regard to this point. To be sure, he tells us that a roof made in this manner "is perfectly air and water tight if the glass joins close together, which it always will if cut straight." The "if" in this statement indicates a possibility of a leaky roof; but the question is pertinent, is not a leaky roof probable? That by this mode of glazing there would be smaller air cracks than by the common method, we are well satisfied, but have fears that too much water would find its way through the joints. Still we hope to learn that glass is now being cut so true that it may be employed as described.

CELERY RUNNING TO SEED.

I set out some Celery plants about the middle of June and the first of July, which I raised myself. Some of them appear to be running to seed. I raised the same kind, white solid dwarf, last year, and had no such trouble. Can you tell me any cause for it? —L. A. M., *Medfield, Mass.*

It is probable that the plants sometime during their growth, either before or after transplanting, have been checked by drought or cold. Plants that have suffered in this way, or that have been raised on poor soil, often "bolt," or run to seed. There is now no remedy for it. By raising the plants in rich soil, and keeping them freely supplied with water, this tendency will never be developed.

FROM A CALIFORNIA SETTLER.

MR. EDITOR: I do wish you had some of my *Opuntia* Cactus and *Yuccas* and I had some of your Blackberries and Strawberries in their places. When we got here the *Opuntias* were just in their glory, yellow, white and rose, great masses of them, eight and ten feet through, and noble *Yuccas* with spikes of bloom six and seven feet high. By the way, I send you a few seeds that I gathered from one a few days ago. The children were quite charmed with the wild flowers here, there is a great variety. Two varieties of *Oenothera*, two of *Verbena*, three *Artemisias*, the beautiful Milkweed, *Asclepias*, and I found, a week or two ago, a *Clematis* twining over a Willow. The Sunflower is a very common weed here, growing to the height of ten feet. I have also found three varieties of *Mimulus*, but between working out and clearing on my own ranch I have very little time for botany.

This is one of the prettiest places I have seen, and from the higher ground we can see all the locations so cracked up in the advertisements. Opposite to us, and more exposed than we are, is Lagonia and Redlands, to the southwest is Riverside, and to the west is Etiwanda and Ontario, and if I had all my pockets full of money and was choosing a location, I should still choose this neighborhood, but a little nearer the foot-hills, as the land there is more suited to the Orange, and they get less frost, and, I think, are free from northers. Mr. CUNNINGHAM, for whom I work, has a vineyard up there within half a mile of the foot-hills. Cuttings were planted a year ago last winter, and some of the vines are now carrying ten to fifteen pounds of Grapes.

I believe in a few years this will be one of the most flourishing colonies in Southern California. Down in the low lands, where I am, the wine Grape and deciduous fruit does amazingly; orchards planted this spring have now made more growth than they do back east in two years, and we have a forty-acre orchard of Peaches and Apricots on the ranch, that was planted two years ago last winter, that is carrying a very heavy crop this year, and some of the trees are ten feet high and almost as thick through.

Here we can get water now from five to ten feet deep, and in any quantity.

One of my neighbors is running a stream of seventy-five inches from a well eighteen feet deep, with which he irrigates fifty acres, and the well never gives out. I helped one of my neighbors to dig a well a week ago, and we struck water at five feet, and could only get a foot deeper by keeping two men at the buckets, and then had to give it up, as the water gained on us.

I see by the Pasadena papers they are thinking of giving up growing the Muscat Raisin Grape, as it is a failure, and from all accounts has been, and so I thought when I was there. There are too many fogs for either the Orange or the tender class of Grapes. Their Oranges are smutted and spotted and the trees plagued with scale, and the tenderer Grapes do not set well or ripen well. There is none of that sort of thing here, as we have a much drier climate. I intend to plant an acre of Blackberries, which produce amazing crops here, if you give them water, but first I must get my land in order, which will take me some time.—W. H. WADDINGTON, *San Bernardino, Cal.*

SUNSET AND LA FRANCE ROSES.

Allusion to these two in the June number, reminds me of my experience with La France. I tie it up in the fall with straw or corn stalks, and it comes out all right. La France, Hermosa and Giant of Battles are the only three now left of a host of Roses set out some ten years ago. But we have, this spring, got quite a lot of them again.

Sunset, a little plant, was potted and plunged in a hot-bed. It grew well, and by the time the sap flowed in the Rose bushes out doors, this gave us a most glorious Rose, which was cut with two eyes to the stem. These buds were set in vigorous stocks, which are now ready to bloom, while the next Rose that came was treated in like manner and are now starting out finely, so that I have five Sunset Rose bushes.

This is the way to hurry up things. By fall I expect to have several strong Sunsets to pot for the house to bloom in winter. The foliage of this Rose is beautiful, and would be worth growing for that alone, while the Rose is a superb thing in all respects.—SAMUEL MILLER, *Bluffton, Mo.*



OUR YOUNG PEOPLE.

NORA'S OUTBURST.

II.

The Lawson boys, though quite unlike in looks and disposition, were twins. Their names were Edgar and Edwin. The only suggestive fact of their close fraternity was their inability to be satisfied when separated. They worked, read and studied together. If a trip or a visit were to be made which could include but one, both remained at home. They had worked hard during the first two months of their vacation, looking forward to one month of entire exemption from coercive duties. Two weeks of this month had now passed.

For Marian Gray they had entertained a great respect since the previous summer's acquaintance, so that any suggestion of hers regarding their share of home duties was quite in order. Hence, the fishes were duly dressed for dinner, with heads, minus the eyes, and the fins left on, according to special instructions.

When nicely baked and brought to the table, flanked on all sides with curly-leaved Parsley, they incited much interchange of compliments regarding their fine size and quality, and the delicate and savory manner in which they were cooked and served.

Nora gave the whole credit of the latter to Marian, declaring that the only process she should have attempted would have been to cut them into sections for the frying pan, and during their sizzling and sputtering she should have stood anxiously over them, while the thermometer ranged at 90°, with the stove heat added, and by the time they were done should have been in a condition akin to sun-stroke.

"And as cross as a bear," said Edgar.

"Yes, cross as a bear; but when Marian had prepared the fish in the daintiest

manner for cooking, she just shoved them into the oven on some bricks she had resurrected somewhere, and shut the door and left them, and went out and gathered this table bouquet at her leisure."

"And the result," remarked Mr. Lawson, "is the very poetry of cooking, if such an expression may be allowed, while your process would have been terribly prosaic, and irritating to the last degree in your dislike for culinary labor. Next year, when you shall have returned home with your graduating certificate, we will hope that your mother will be able to assist you in developing a degree of interest in such matters as Christine's methods are not likely to inspire.

"And, boys," he continued, "I am suddenly called to the city, on business, and shall be absent two or three days, and certainly you will do what you can to render your sister's duties as light as possible, or she may be justified in giving you short rations. Don't let her go to the garden for vegetables, either in the dew or the hot sun."

"Father," interposed Nora, "I'll warrant that if they undertake to gather either Beans, Peas or Cucumbers, they'll jerk the plants up by the roots. They know nothing about the garden. You or Christine have always done the gathering in."

"True, but they have a little common sense, I trust."

"Thanks!" said the boys in a breath.

Then Marian remarked that she had taken a turn in the garden for the pure love of seeing the growing things, and had observed that the Salsify was getting large enough for use.

"And do you know how to cook it," queried Nora, "so that it will look and taste like fried oysters?"

"I do. If one of the boys will bring some in, after dinner, we'll cook it immediately, while there is still fire; for at tea time we'll have no fire while this weather lasts.

"Mr. Lawson," she continued, "Nora has 'clothed me with a little brief authority,' which your sons understand, though you do not, and must, therefore, think me presuming upon the privileges of a guest."

Not at all, Miss Gray; I have reasons for feeling that your presence here is a perfect God-send to Nora in her loneliness. [Nora blushed.] But how your mother and the guests at the Glen House can spare you so long to us is more than I can comprehend."

"Never mind that part," replied Marian, "Mamma understands and consents, and that makes it all right as far as the Glen House people are concerned."

Then they rose from the table, and Edgar started to the garden with a basket, calling Edwin to "come on." Directly Edwin returned with a basket full of the green tops of the Salsify, remarking as he sat it down,

"Edgar says this is the best we can do without 'pulling it up by the roots,' " and turned, as though to leave.

"What nonsense!" cried Nora, "we mean business now, not play."

But Marian, picking up the basket, knew by the weight that the roots must be underneath the foliage, and thinking to give "tit for tat," stepped up to Edwin saying:

"I want to give you and Edgar a riddle to solve, which has been a parlor-puzzle to many a professional magnate, but which, I trust, is not familiar to you. It is this:

"How long can a goose stand on one foot?"

"Till it gets so tired it can stand no longer," was the quick response.

"The answer is nothing at all like that. Put your two heads together, and study it over awhile."

Then the girls turned their attention to the vegetables and soon had them cooking. The after-dinner work was completed in short order, after which the Salsify, which had to be cut in small pieces, was found to be quite done. Marian then drained off the water, and putting in an extra quantity of butter,

salt and pepper, mashed the mass into a smooth pulp, which was then emptied into an earthen dish and carried down cellar, Marian remarking that the time spent in this first process amounts to nothing as compared with the final result.

Shortly afterwards, when the girls, in fresh toilettes, were sitting on the front piazza, Nora inquired:

"How does it happen, Marian, that you, a city girl, with always two servants in your home, should know so well how to manage in the kitchen?"

"I'll tell you. Once mamma and the cook were sick at the same time, just after the chambermaid had been discharged for dishonesty; and it was three weeks before we were able to replace either girl with one we could trust. Of course, our meals were sent in to us, but we all grew very tired of the monotonous cooking; even the sameness of the unsuggestive table-ware became an offense to the sight. We had every vegetable in the market for our dinner each day, instead of a portion of them one day and a different variety the next. Poor mamma ate the soups they brought until the very smell of them nauseated her, while I wept in secret that I did not know how to prepare some delicate dishes that should be not only different each day, but suitable for her condition. And, Nora, it was then I mentally vowed that I would make myself mistress of cuisine before becoming interested in any other direction; and I did. You can't imagine, Nora, how independent and satisfied such knowledge makes one feel. I now have at command three methods by which I can earn money, if necessary."

"You don't mean," asked Nora, "that you would hire out as cook or kitchen maid, if other resources failed?"

"Not exactly that," said Marian, "for a competent, educated woman could secure a place as housekeeper in a wealthy family, and have charge of the cook and other domestics herself, receiving a salary of one thousand dollars a year, besides her living, which is more than ordinary music and school teachers receive. There are, now-a-days so many mechanical appliances and helps that no household service seems to be the drudgery it once was."

"Have we any of the 'helps' you speak of?" inquired Nora.

"I have seen, for one thing, a nice kerosene stove standing in an out-of-the-way place, as though it had been tabooed. As I am installed as chief manager, I propose that the family cooking be done on it during the rest of my reign."

To this Nora gladly assented, and then proposed a change of subject, by saying:

"I have been craving an opportunity to look over your herbarium."

So Marian brought out a deep box, made of very heavy pasteboard, the front side of which, being detached at the ends, opened outward when the lid was removed. The specimens were mounted upon sheets of card-board of uniform size to fit the box. Each one was covered with tissue paper gummed on at the upper edge. As one by one was carefully brought out, Nora declared that many of them were almost equal to paintings. Among those which had best retained their colors, were certain dark Pansies, scarlet *Salvia*, *Kerria Japonica* and perennial *Larkspur*. The foliage of spotted, bulbous *Begonias* was also very fine. The plants were mounted in different ways. If there was one main stem it was passed underneath a narrow band, made by carefully cutting two short slits near together in the card-board. The other parts were firmly fixed in place by a touch of the mucilage brush, barely a touch, so that the sheet be not warped by dampness. Several groups of small plants were secured in place by a neatly cut strip of paper gummed on at the point where the stems joined or crossed each other. The name, genus, class, etc., were neatly written in the lower right hand corner, and the place of nativity, year of its transfer, and "Remarks" were recorded at the left hand corner. In one of these corners was written by way of remarks,

"Presented by one for whom it could not be worn, but gladly preserved for its own value."

"A very unscientific comment," Marian said, laughingly; "I must cover it up with a slip of blank paper, lest some precise old scientist happen to see it and growl over it."

Just then the boys made their appearance, and when Marian challenged them for a solution of the riddle, they declared it was too silly to furnish one.

"Very well," she retorted, "the table is already laid for tea, and after you have

brought the things out of the cellar, I will satisfy you on that point. You may first ice the pitcher of tea; then bring up that and the butter and rolls, and cottage cheese, and the —."

"Who wants to eat cottage cheese in a two-story house with an attic?" interposed Edgar.

"You do; hush! Just bring up anything you see dished ready for the table. They all stand together."

Off went the two down cellar, pell-mell, while Nora laughed to think of their new experience. Directly they appeared, and announced that all was ready.

And now you want to know how long a goose can stand on one foot, I suppose. I'll give the answer privately. Edwin, I'll tell you first."

And then she whispered in his ear, "Just you try it and see!" Edwin gave a little start, and then said, "I'll tell Edgar myself." The latter lent a listening ear, and the next moment was trying to collar Edwin, saying, "You needn't think I'll take that off of you, sir!" And away they dashed into the shrubbery and over the fences, out of sight. The girls were nearly done eating before they returned, laughing and panting as they came.

"I thrashed him till he cried for quarter," said Edgar. He needn't think he can come that sort of thing over me. Why, Marian, I never felt so like a simpleton in my life. 'Twouldn't have been half so bad from you."—AUNT MARJORIE.

THE WHIP-POOR-WILL.

When the quietness of some warm summer night has settled down upon the earth, and naught is heard save the hum of myriads of insects, which render the stillness only more intense, listen for a moment and the curious cry of the *Caprimulgus* will be heard; the cry that has given the bird its more familiar name of Whip-poor-will, which words it seems to say. Over and over it will repeat them without a moment's cessation, until one would think the little creature must surely be exhausted. Yet from the continued strength of the sound no such evidence is given.

The bird is a native of North America; it is about eight or ten inches in length; its plumage is mottled and slightly streaked with black, and round the neck is a narrow band of white.



WHIP-POOR-WILL.

Its food consists principally of moths, beetles and insects of various kinds. Its flight, therefore, is only at night, very near the earth, and perfectly noiseless. Because of its dexterity in catching moths while on the wing, it has also been called the "Moth Hunter," and for that purpose has been given a strangely shaped mouth. At the base of the beak are several long, coarse whiskers, or bristles, and when the mouth, which is very broad, is opened, it seems almost to divide the head in two.

When perching, its position is different from that of other birds, for it sits lengthwise instead of across the branch.

It does not take the trouble to build a nest, but seeks a hollow in the ground beneath some bush or shrubs, and this answers the same purpose.

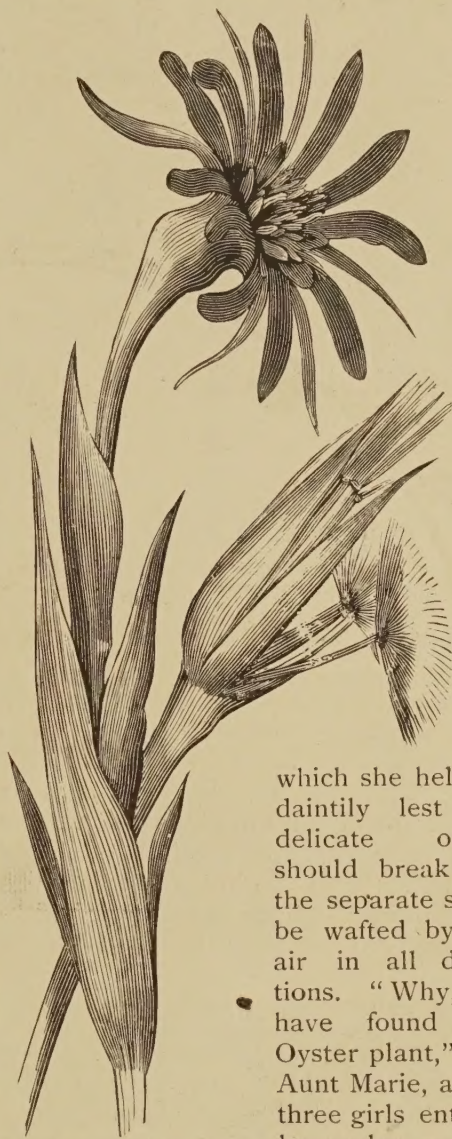
Only at night may be heard the cry of the *Caprimulgus*, and then it sounds as if calling in a reproachful interrogative tone, "Whip-poor-will? Whip-poor-will?"
—M. E. WHITTEMORE, *New York*.

ONLY A WEED.

Marion was walking leisurely along the road with her two girl friends, Jennie and Edna. On their faces was an expression of careless indifference; the world was to them all sunshine, and they were too much absorbed in the present to even think of the great, hidden, unknown future before them. It was enough for Marion that the sky was clear, and that her friends had nothing else to do but saunter forth with her into the green fields and wherever their wills should dictate. What could be more suggestive or picturesque than the appearance they presented, with their streaming hair, as they gayly moved along noticing and grasping at the Dandelion seeds floating and glistening in the clear, soft air of a July morning. Every now and then their hands would clasp one of those soft-winged seeds moving on its way, like the the girls, to some unknown and hidden destiny. Suddenly Marion espied a strange looking plant on her path, and she bent over and reached out both hands to gather for herself the beautiful cluster of seeds, which resembled somewhat those of the Dandelion, only it was very much larger. It glistened like gold as the sun rays shone on it, and Marion said, "I will take this to Aunt Marie, she

can tell me all about it." Edna and Jennie at the same time gathered the purple, star-like flowers which were blooming profusely around it.

Marion was wholly engrossed in the large, globular cluster of feathery seeds



VEGETABLE OYSTER.
TRAGOPOGON PORRIFOLIUS.

which she held so daintily lest the delicate object should break and the separate seeds be wafted by the air in all directions. "Why, you have found the Oyster plant," said Aunt Marie, as the three girls entered her parlor, eager to have her explain all about that wonder-

ful-looking, golden cluster of fleecy seeds.

"Have you ever seen a goat?" said Aunt Marie. "Why, yes," said Marion, "but what has a goat to do with this?" "Well," replied her aunt, who knew that the learned ones had named the plant *Tragopogon*, which name is a Greek word for goat's beard, because this cluster of seeds resembles the goat's beard, "the next time you girls see a billy-goat, just look closely at his beard, and you will

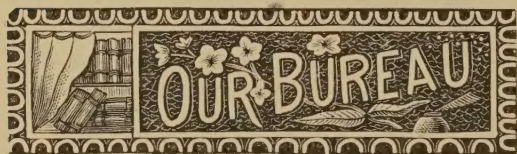
see that it looks very much like this round cluster of seeds, with their feathery golden brown hairs which you hold in your hand."

"How very funny," said all the girls in chorus, while the music of their voices



SALSIFY, OR VEGETABLE OYSTER—HEAD OF PLUMOSE SEEDS, ONE-THIRD NATURAL SIZE.

and laughter filled the room. It was a great delight to Aunt Marie to see their happy faces glow with intelligence and surprise, while she told them just enough of the curious plant to excite an eager desire to know more, and a still greater delight to feel that their interest and love of the curious and beautiful in nature had led Marion to gather the plant which would otherwise have been passed without observation.—M. H. S.



MEDICINAL PLANTS.—The second number of the *Drugs and Medicines of North America*, which was issued in July, treats of the Hepatica, or Liver Leaf, and the bulbous Ranunculus, *R. bulbosus*. Excellent engravings of the different parts of the plants illustrate the letter press. The two forms of Hepatica common in this country are regarded under the names *Anemone acutiloba*, of LAWSON, and *Anemone Hepatica*, of LINNÆUS. The writer, however, states that many botanists in this country regard them as different forms of the same plant, and gives some facts that are held to support this position. The following note may be interesting to many admirers of this handsome little plant. "*Anemone acutiloba* has sharp leaf-lobes, and *Anemone Hepatica* blunt. A distinctive character between the two species has been observed by CHARLES H.

PECK, viz., when *Anemone acutiloba* is in flower the young leaves have attained a considerable size, and are quite conspicuous; but when *Anemone Hepatica* is in flower the young leaves have scarcely made their appearance, being yet closely packed away at the base of the scapes and old petioles." The price of this excellent quarterly is one dollar a year.

THE SHADOW OF THE WAR; a Story of Reconstruction Times.—The reconstruction period following the rebellion must rank as one of the most complex, curious, and anomalous epochs of American history. It was an era of social disorder and political anarchy, which in several of the Southern States fell but little short of civil war. The most adequate and impartial portrayal ever given of these events is doubtless that contained in the new book appropriately called *The Shadow of the War*. While the work comes in the form of an attractive story, its revelations of matters hitherto unknown or only suspected, and its strange and dramatic situations, must cause it to make an unusually deep impression. Published by JANSEN, MCCLURG & Co., Chicago, Ill. Price \$1.25.

OUR COUNTRY HOME.—Another paper devoted to the interests of agricultural pursuits has made its appearance as a monthly in sixteen-page quarto size, with the above title. It is published at fifty cents a year, by HENRY D. WATSON, the enterprising proprietor of *Good Cheer*, and he makes the liberal offer to supply it to all who take *Good Cheer* for twenty-five cents. The general appearance and make up is excellent, and the matter is varied and interesting. The different departments are separately edited by competent and well known parties who cannot fail to be recognized as authorities in their particular spheres. We speak for it a widespread circulation.

POPULAR SCIENCE MONTHLY.—We are pleased to notice the valuable and varied contents of each issue of this favorite Magazine. The general reader who wishes to keep pace with the progress of science and the various phases of scientific thought, should read it, month by month, as it appears. It is always instructive and satisfying, and should have the patronage of the intelligent portion of every community. Wherever it is made a part of the family reading it is apt to remain indefinitely. It is kept by most newsdealers. Published by D. APPLETON & Co., New York, at \$5.00 a year.

POLITICAL RECOLLECTIONS, by GEORGE W. JULIAN.—This volume, lately issued by JANSEN MCCLURG & Co., Chicago, Ill., is a recital of political events from the year 1840 to the close of GRANT's second administration, as they came to the knowledge of the writer or were participated in by him, and it is written with all the vivacity of one who was an actor in the occurrences described. At this time, especially, when so many are examining their party claims, this book will prove interesting reading to persons of all shades of political opinions. Price \$1.50.

THE FLAX PLANT is the title of a pamphlet by FRANK H. SHURICK, of Fort Wayne, Indiana. It is apparently a valuable treatise on the subject, and worthy of the attention of the farmers of this country, as the time is probably not far distant when in some parts Flax will become a staple product. Price 10 cents single copy, to be had on application to address above noted.